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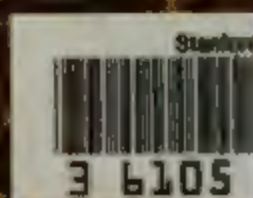
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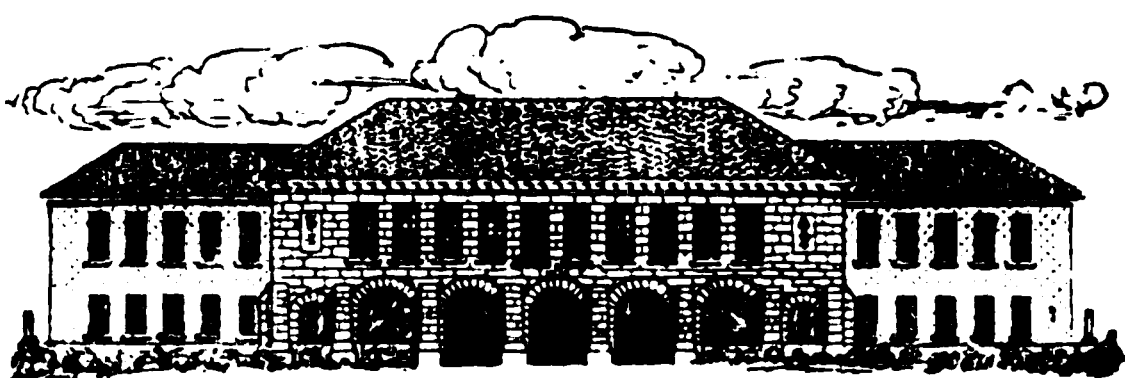
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THE NEW YORK TEACHER,
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*THE CATHOLIC VIEW OF PUBLIC EDUCATION IN THE
UNITED STATES.*

IT would be wholly superfluous to address an argument to any portion of the American people upon the absolute necessity of popular education. Upon that point there is no diversity of opinion. The fundamental principles of our social system rest upon it as a corner-stone ; such as, that government derives all of its authority, under God, from the consent of the governed ; the people possess the sovereignty ; public officers are only public servants ; the multitude rules by representation ; Congress, the President, and the Courts are the people—without the people they have no existence ; constitutions and laws are but the well-ordered expression of the public will, at all times revocable, in an orderly manner, and binding upon each citizen as the will of all, unless the popular decree be against the law of God, when, of course, it binds no man's conscience. Hereditary rights, class privileges, ancient social divisions, and distributions of power, have all disappeared, or rather, have never existed here. Even in Colonial times, the Crown was almost a myth, and cast but a shadowy reflection into the deep waters of the Hudson and the Mississippi, as they rolled on to the sea from the illimitable forests where the moccasined hunter was then as free as the red Indian had been for unrecorded centuries. The Revolution of '76 changed the government, but really left the cardinal points of our American civilization very much as it found them. In fact, our political education is traceable back to the days of Alfred and Edward the Confessor ; for the Norman king gave us no concession in Magna Charta which was unknown to Saxon liberty. In our Republic we have only drawn out these principles to their extreme conclusions. We have gone back to

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the original hypothesis, that society is an association of equal rights for mutual protection ; and that power, under God, belongs to the whole body of corporators—i. e., the multitude. From this postulate we are obliged to pass immediately to the axiom that there can be no fit administration of power without knowledge. Knowledge may be acquired in several ways. The most direct and impressive is experience. Alcuin was master of books ; but Charlemagne was master of men. The great emperor could not read, but he possessed the wisdom to govern. Who shall say that he was not “educated” in the highest sense of that vague term ? And yet, it is very clear that knowledge gained only by the slow accretions of experience will not answer the wants and rapid movements of such a Republic as ours, in the age of steam and electricity. Each generation must be trained from the cradle, and made to possess, enlarge, and transmit to its successor all the accumulated knowledge of its predecessor. As no atom of matter perishes, but is forever re-combining and re-producing ; so every true idea and sound moral sentiment must be made the inheritance of society, and never cease to exert its power for good among men. Not that moral truth can ever change ; for, it is now precisely what it has been from all eternity ; nor is it better understood by the divine to-day, than it was by Moses when he came down from the mountain ; but the multitude may be made more fully to comprehend and reverence it. Christianity, although specially revealed and miraculously propagated, did not suddenly conquer and civilize barbarous peoples. It has been eighteen hundred years struggling with the powers of darkness and the corruption of the human heart ; and yet, alas ! how very, very far removed are not even the most polished nations from the severe standard of Christian perfection ! See the tyrannies, the oppressions, the cruelties, the wars, the pride, the luxury, the folly and deceit, which fill the fairest parts of the earth with mourning, and drag mankind down into the slough of sin and sorrow ! To be sure, there is a certain stereotyped class of saints and philosophers who cry aloud, “Compare our enlightened era with the rude times of the crusaders ; or place the nineteenth along side of the ninth century ; and let the celestial light of our civilization shine down into the abysses of monkish superstition !” We shall, nevertheless, refuse to close our eyes to those stupendous sins which have supplanted the violent crimes of our ancestors. We shall see how their robber-sword has been put aside for our forger’s pen ; how their wild foray has given place to our gigantic stock speculation or bank swindle, which sweeps widows and orphans, by the ten thousand, into utter poverty and despair ; how their fierce lust has been civilized into the decorous forms of the divorce courts ; how their bold grasping of power has been changed into the arts of the whining demagogue ; how their undisguised plunder of the public treasure in times of

civil commotion, has been superseded by the adroit peculation and covert bribery of our times of peace ; how their courageous, rude anger has vanished before the safer and more efficacious process of concealed hatred, nestling, like the scorpion, among the roses of adulation. We certainly shall be obliged to remember these things, to the great reproach of our times, and in serious dread of the future ; and we shall feel anxious to go to work to find the cause and the remedy. We are all agreed that education, that is, knowledge and moral training, cannot be dispensed with for an hour—that no nation can be governed safely, much less govern itself at all, without a clear head and a sound heart—that, if governed as a dumb brute, it will kick against the pricks, fly in the face of its hard master, and dash out its foolish brains against the stone wall ! It will sing the “*Marseillais*” and cover its garments with the blood of kings and aristocrats ; until, having spent its fury, it will return to its crust and shout “*Vive l’Empereur !*” Should it attempt to govern itself, it will become the prey of the infamous men who are the spawn of its own passions. Without knowledge, the nation is either a silent sepulchre, where all hopes are buried, or a raging sea, where they are quickly wrecked. Knowledge, then, *it must have*. But, *what* knowledge ? Shall we say, knowledge of the Arts ? Ask Phidias and Praxiteles if the Arts saved Greece ! Shall we say, polite literature ? Ah, let the mournful Chorus of Sophocles, Æschylus, and Euripides give utterance to the sad cries of those old pagan hearts for a higher virtue than the sublimest tragedy could teach them ! Shall it be the eloquence of the orator ? or the wisdom of the legislator ? We shall hear in the *Philippics* how vainly the master of orators appealed to a degenerate race, and we shall read in the closing annals of Athens and Sparta how utterly the wisdom of Solon and Lycurgus had failed to save polished and warlike States from the penalty which God has affixed to the crimes of nations. Shall we take refuge in human philosophy ? Socrates and the divine Plato had cast off the degrading superstitions of paganism, and had proclaimed to their intellectual countrymen the Eternity and Unity of God and the immortality of the soul of man. They had most earnestly enjoined upon them the sanctity of all the natural virtues—temperance, industry, patience, courage, honesty, benevolence, patriotism, continence, filial duty, conjugal fidelity ; but, what did their philosophy avail ? Why did it not save the Grecian States ? They went down into the night upon which no sun ever again shone ! Their Roman conquerors seized upon the rich treasures of their knowledge. The Senate listened with rapture to the wisdom of the old Hellenic sages translated by Cicero into the noble Latin tongue. Virgil and Livy sought to inspire the Roman heart with grand ideas borrowed from the Greek masters. What did it all avail ? The Roman Republic had practised the natural

virtues as fully as unregenerated man is capable of doing, by the power of vigorous and cultivated reason. What did it avail? They, too, went down into the tomb of dead nations; and a few broken columns remain to mark the seat of their world-wide empire! It is very manifest, then, that intellectual culture, even when carried to the highest development of which men are capable, can never subdue their passions, nor enable them to uphold the civilization to which they may have attained in the freshness of their national life. If this were not so, then we could not clearly perceive the necessity of the Christian revelation. If man was self-sustaining, he would not require the arm of God to lean upon. The apothegm of the Greek sage, "*Know thyself*," was a dead-letter. It was precisely to teach man how to know himself, that our Saviour came. And this is the whole knowledge! No poetry, oratory, history, philosophy, arts, or sciences, could teach that; else, the world would have learned it four thousand years ago, and the primitive races would not have perished. Even under the Christian dispensation, and in very modern times, men and nations have failed to know themselves, because they turned their backs on Christ and placed their hopes in human science and natural virtue. And so, we have seen an enlightened nation, in our day, deify humanity, refuse to adore God, and prostrate itself before a harlot, as the high-priestess in the apotheosis of Reason! We have seen an anti-christian conspiracy, formed of the most learned, eloquent, witty, and fascinating men of modern Europe, exerting the highest arts of genius to re-paganize the world. We have seen science, rudely torn from religion, waging an insane war against the peace of society. That terrific phase of blasphemous infidelity has passed from our immediate view; but, has it left nothing more dangerous behind? We think it has. The mass of mankind shrank with horror from the defiant blasphemy of Voltaire; and they recoiled with alarm from the ruin caused by his teachings. We love liberty; but we dread license, anarchy, chaos. Man is, also, naturally religious. Long after he had forgotten the traditions of the Patriarchs and had lost God in the night of heathen idolatry, he still clung to

"The instinct of old reverence!"

and his wretched soul yearned after its Creator.

The false worship of Greece and Rome was the inarticulate cry of a lost people for that true worship which was promised to the Gentile at the appointed time. False and hideous as it was, who will not say that it was far preferable to atheism? It was only when the Epicurean philosophy had destroyed the faith of those people, that they cast off all moral restraint, and were swept away in the torrent of their vices. Man is naturally religious; and therefore the world will not long patiently

tolerate the presence of blatant infidelity. *The danger is not there.* He who goes about like a roaring lion seeking whom he may devour, knows very well that mankind is more easily seduced under the forms of virtue than by gross sin. His incarnate agents on earth know this too. Hence we find all the world covered over with gossamer nets of seduction ! The press teems with books and journals, not confessedly infidel, yet working in the interests of infidelity ; fanning the passions and exciting the morbid sensibilities of youth ; teaching religious indifference under the pleasing garb of liberality ; holding up the discipline of the Church as hostile to personal freedom ; depicting the doctrines and ceremonies of the Christian religion as trammels upon mental activity and intellectual progress ; arraying the laity against their pastors ; insisting that, to be a humane man, an honest and industrious worker, a faithful friend, a good husband and father, a patriotic citizen, is to be all and to do all that the highest Christian morality can require or the welfare of the human race demand ; asserting that the specific dogmas of the Christian faith, with perhaps one or two exceptions, are not essential, and may be rejected without concern ; receiving with indifference and polite complacency either the divinity or the humanity of Christ ; and accepting Him as a God-Saviour, a man-prophet, or a harmless, self-deluded impostor, as your fancy may please to dictate ; in a word, deifying man, and making this world, with its wealth, its pleasures, its pride and pomp, its power and magnificence, its civilization and nationalities, the sole object of his anxiety and love. Such, we say, is the growing evil of this nineteenth century, which is so scornful of the “dark ages ;” an evil infinitely more subtle and destructive than the rage or gibes of Voltaire. This poison has gone through the chilled blood of renegade old men, destroying the religious vitality which had sustained their faith from the baptismal font to the very edge of the grave ; how must it not, therefore, affect the hot veins of inexperienced youth, whose generous impulses are their greatest peril ! See how, in those European revolutions gotten up by avowed enemies of religion, the students of the Universities flock to the standards of infidelity, with the seductive cry of “*Liberty, Equality, Fraternity !*” They enlist, with enthusiasm, under what they believe to be the consecrated banner of inalienable human rights—their young sympathetic hearts are justly moved by the sufferings of the toiling millions, caused by unequal laws—their sense of justice and human brotherhood is outraged at the sight of domineering classes who monopolize the blessings of government—they see very clearly all the existing wrongs, but they do not see the practicable and wise remedies ; and when they hear prudent voices counselling patience, and reminding them that the evil works of centuries, like old forest trees, have deep roots, and cannot be rudely torn out of the bosom of society without endangering its life,

they cry out in their enthusiasm, "these are the voices of the enemies of the people, the voices of priests and aristocrats, away with them to the guillotine!" Only too late do they experience the retribution which God invariably visits upon those who presumptuously seek to drive the chariot of His Providence!

Not one word of what we have said is inapplicable to our own land. We live, move, and have our whole being in the midst of these same perils. Steam, electricity, commerce, and emigration have made us a part of the great European family. Every throb of their heart is felt in our own bosom. We are of their blood and civilization. We have their laws and their religion. We are nurtured by their science and literature. From us they have received more thorough ideas of democratic freedom; but from them we have derived all else that constitutes the intellectual life of man. It would be the height of folly in us to despise the lessons of their experience. Our children should be carefully instructed in all of it. They have a difficult task to perform in perpetuating our institutions as they were shaped by the fathers of the Republic. They must be well trained in the knowledge necessary for that purpose. From what has already been said, it will be at once understood that we do not mean human science alone, *nor principally*. The beginning of wisdom is the fear of the Lord.

This brings us to the consideration of the immediate subject of this article; which can now, we think, be briefly stated; inasmuch as the foundation has been properly laid, if our views are correct as to the principles which we have presented.

Enlightened rulers all over Europe have been profoundly impressed by the lessons of this and the last century. It was once believed by monarchs that to enlighten their subjects would be to imperil their thrones. It is now very clearly seen that "the divinity which doth hedge a king" has long ceased to be an oracle to the people. The French Emperor erects his dynasty upon popular suffrage. Hereditary right has come down from its ancient pedestal to accept from the people the confirmation of its authority. It is now too evident for further doubt, that no ruler can rule modern nations by any appeal to the mausoleum of his ancestors. The garish light of the sun has penetrated every royal tomb, and has altogether annihilated the mystery which once filled the hearts of nations with awe and unquestioning obedience. Public opinion now rules the ruler. Kings and their ministers have now to elect between intelligent and virtuous opinion on the one hand, or revolutionary passions on the other. The wisest of them, therefore, are hastening to educate the people; and they are striving, above all things, to make such education distinctly *Christian*, and not simply *moral*; for, they well remember the fate of all nations who have staked their salvation

upon the sufficiency of the natural virtues. While kings are doing this to preserve the shadow of their royalty from the aggressive spirit of the age, we, in this chosen land, are doing or aiming to do the same thing, in order that we may rear successive generations of virtuous and enlightened heirs to the rich inheritance of our constitutional democratic freedom. Ours should be much the easier task ; as we labor for no dynasty, but strive only to make a nation capable of self-preservation. We are no less in earnest than the kings ; and we may surely examine their work and see what is good in it. The kings tried the pagan idea of intellectual culture adorned with the glittering generalities of moral philosophy ; and they added to it the maxims of the Christian gospel, whenever that could be done without getting entangled in the conflicting creeds of the numerous sects. The school was like Plato's lecture-room, only that the sacred voice of the Evangelist was heard occasionally in such passages as do not distinctly set forth faith and doctrine, about which the scholars could differ. Sectarianism, as it is called, had to be excluded, of course, in a mixed system of popular education, wherein freedom of conscience was conceded to be a sacred right and proselytism was disavowed. The result was twofold : first, tens of thousands of children were deprived of distinct religious instruction and doctrinal knowledge ; and secondly, in countries where the Roman Catholic population was large, though in a minority, other tens of thousands were left without secular education, because their parents would not permit them to be brought up in habits of indifferentism, which means practical infidelity, or trained in knowledge hostile to their religious faith. Prussia, though she is the very embodiment and representative of Protestant Europe, soon came to the conclusion that this would not do—that education must be Christian—that it must be doctrinal and conducive to religious practices—that, as all could not or would not believe alike, each should have full opportunity to be reared in his own faith, to learn its doctrines and to fulfil its duties and discipline—and, therefore, that enlightened government established the denominational system, giving to each creed practical equality before the law, a separate school organization (wherever numbers made it practicable), and a ratable share of the public school-fund ; reserving to the Government only a general supervision ; so as to secure a faithful application of the public money, and to enforce a proper compliance with the educational standard. The public schools are organized so that every citizen shall obtain the complete education of his child, in the faith and practice of his own Church. All difficulties have disappeared, and perfect harmony prevails.

In France, by the last census the population was thirty-seven millions, divided about as follows: 480,000 Calvinists, 267,000 Lutherans, 30,000 of other Protestant sects, and 73,000 Jews ; the remaining thirty-six millions

being either practically or nominally Catholic. Although the dissenters from the national faith are less than one million, that Government has provided for them, at the public expense, separate primary schools, where each sect is at full liberty to teach its own doctrines. There are likewise three seminaries for the higher education of Lutherans and Calvinists.

Austria also supports schools, colleges, and universities for a Protestant minority.

The British Government has likewise adopted the same principle of public education for the Catholics and the Protestant dissenters of England; while, with her traditional and malignant hatred of the Irish people, she still denies them the justice which she extends to all of her other subjects, at home or in the Colonies, even to the Hindoos and Mohammedans of her Indian Empire!

And thus, the most powerful and enlightened nations have decided that Christian civilization cannot be maintained upon pagan ideas; and that the safety of every commonwealth depends upon the Christian education of the people. They have also clearly seen that *doctrines, discipline, morals*, and "*the religious atmosphere*," must be kept united, and made to penetrate and surround the school at all times; and that, however greatly the Christian denominations may differ from each other, or even err in their belief, it is far better for society that their youth should be instructed in some form of Christian doctrine, than be left to perish in the dreary and soul-destroying wastes of deism. Experience has proved to them that moral teaching, with Biblical illustrations, as the piety of Joseph, the heroism of Judith, the penitence of David, will not suffice to establish the Christian faith in young hearts, or to quiet the doubts of inquiring minds. The subtle Gibbon, mocking the cross of Christ, will confront the testimony of the martyrs with the heroes of pagan history. Voltaire did the same for the French youth of the last century, to their destruction. No. The experience of wise governments is this; that *morals* must be based upon *faith*, and faith made efficient in deeds of practical virtue; for, faith worketh by charity. And another experience is this, which is best given in the very words of the eminent Protestant statesman and historian, M. Guizot: "*In order to make popular education truly good and socially useful, it must be fundamentally religious. I do not simply mean by this, that religious instruction should hold its place in popular education and that the practices of religion should enter into it; for a nation is not religiously educated by such petty and mechanical devices; it is necessary that national education should be given and received in the midst of a religious atmosphere, and that religious impressions and religious observances should penetrate into all its parts. Religion is not a study or an exercise to be restricted to a certain place and a certain hour; it is a faith and a law, which ought to be felt everywhere, and which after this manner alone can exercise*

all its beneficial influence upon our minds and our lives." The meaning of which is, that not a moment of the hours of school should be left without the religious influence. It is the constant inhalation of the air which preserves our physical vitality. It is the "*religious atmosphere*" which supports the young soul. Religion cannot be made "*a study or an exercise to be restricted to a certain place and a certain hour.*" It will not do to devote six days in the week to science, and to depend upon the Sunday-school for the religious training of the child. M. Guizot is right. The enlightened governments of Europe have accepted his wisdom and reduced it to practice in their great national school-systems.

Now, the Catholics of the United States have said no more than that ; have asked no more than that ; and yet, a wild cry of anger has been raised against them, at times, as though they were the avowed enemies of all popular education. They pay their full quota of the public taxes which create the school-fund, and yet they possess, to-day, in proportion to their wealth and numbers, more parochial schools, seminaries, academies, colleges, and universities, established and sustained exclusively by their own private resources, than any other denomination of Christians in this country ! Certainly, this is no evidence of hostility to education ! And, why have they made these wonderful efforts, these unprecedented sacrifices ? It is because they believe in the truth uttered by M. Guizot. It is because they believe in the truth established by all history. It is because they believe in the truth accepted and acted upon by the enlightened men and governments of this age. It is because they know that revealed religion is to human science what Eternity is to Time. It is because they know that the salvation of souls is more precious to Christ than the knowledge of all the astronomers. It is because they know that the welfare of nations is impossible without God. And yet, they fully understand how religion has called science to her side as an honored handmaid ; how learning, chastened by humility, conduces to Christian advancement ; how the knowledge of good and evil (the fruit of the forbidden tree) may yet be made to honor God, when the sanctified soul rejects the evil and embraces the good. Therefore the Catholic people desire denominational education, as it is called.

That is the general view of the question ; but there is a particular view, not to be overlooked, and which we will now briefly consider.

The most marked distinction between pagan and Christian society is to be found in the relations which the State bears to the family. Scarcely was the Lacedemonian boy released from his mother's apron-string, when the State seized him with an iron hand. The State was thenceforth his father and his mother. The sanctities and duties of the family were annihilated. Body and soul, he belonged to the Moloch of Power. Private conscience was no more than a piece of coin in circulation ; it was

a part of the public property. Christ restored the family as it existed in Adam and Eve. Christian civilization denies that the State can destroy the family. The family is primary; the father the head; the mother the helpmate; the children in subjection, and for whom the parents shall give an account to the Father in Heaven. The Christian State has no authority, by Divine or human appointment, to invade this trust. It has therefore no mission either to coerce conscience or to dictate the education of it. It is the duty of the State in every way to facilitate, but it cannot arbitrarily control the mental and moral training of the people's children. That right and that responsibility are domestical, and belong to the parent.

Now, the Catholic parent is aware that there are between his creed and all others the widest and most irreconcilable differences, and that it is impossible to open the New Testament, at almost any page, without forthwith encountering the prime difficulty. To read the Bible, without note or comment, to young children, is to abandon them to dangerous speculation, or to leave them dry and barren of all Christian knowledge. In mixed schools there is no other recourse; because it is impossible to make any comment upon any doctrinal teaching of Christ and his Apostles, without trenching upon the conscientious opinions of some one or other of the listeners. "The Father and I are one,"—"the Father is greater than I"—here at once we have the Unitarian and the Trinitarian at a dead-lock! "This is my body;" "It is the spirit which quickeneth, the flesh profiteth nothing;" here we have the primitive Lutheran, who believed in the real presence (*consubstantially*), and his Calvinistic coadjutor in Reform squarely at issue! "Unless you be born again of water and the Holy Ghost," etc.—here we have the Baptist and the Quaker very seriously divided in opinion. Nevertheless, widely as they differ the one from the other, there is a fundamental assimilation between all the Protestant sects, which may render it possible for them to unite in one educational organization; and yet, we find many of the most enlightened and earnest among the Protestant clergy in America now zealously advocating the denominational system, such as we find in the European countries above referred to. They believe that education should be distinctly based upon doctrinal religion; and they are liberal enough to insist, that, by natural right, as well as by the constitutional guarantees of our free country, no doctrine adverse to the faith of a parent may lawfully be forced or surreptitiously imposed upon his child. It is well known, however, that, between the Catholic faith and all Protestant creeds, there is a gulf which cannot be bridged over. It would, therefore, be simply impossible to adopt any religious teaching whatever in mixed schools, without at once interfering with Catholic conscience. No such teaching is attempted, as a general rule,

we believe, in the public schools of the United States ; and hence we have only a vague announcement of moral precepts, the utter futility and barrenness of which we have already alluded to. Catholics, agreeing with very many enlightened and zealous Protestants, believe that secular education, administered in that way, is not only vain, but eminently pernicious ; that it is fast undermining the Christian faith of this nation ; that it is rapidly filling the land with rationalism ; that it is destroying the authority of the Holy Scriptures ; that it is educating men who prefix "Reverend" and affix "D. D." to their names, the more effectually to preach covert infidelity to Christian congregations ; that, instead of the saving morality of the Gospel of Christ, which rests upon revealed mysteries and supernatural gifts, it is offering us that same old array of the natural virtues or qualities which pierced, like broken reeds, the sides of all heathen nations. And more than this, Catholics know by painful experience, that history cannot be compiled, travels written, poetry, oratory, or romance inflicted upon a credulous public, without the stereotyped assaults upon the doctrines, discipline, and historical life of their Church. From Walter Scott to Peter Parley, and from Hume, Gibbon, and Macaulay, to the mechanical compilers of cheap school-literature, it is the same story, told a thousand times oftener than it is refuted ; so that the English language, for the last two centuries, may be said, without exaggeration, to have waged war against the Catholic Church. Indeed, so far as European history is considered, the difficulty must always be insurmountable ; since it would always be impossible for the Catholic and the Protestant to accept the same history of the Reformation or of the Papal See, or the political, social, and moral events resulting from or in any degree connected with those two great centres and controlling causes. Who could write a political history of Christendom for the last three hundred years and omit all mention of Luther and the Pope ? And how is any school compendium of such history to be devised for the use of the Catholic and Protestant child alike ? And, if history be philosophy teaching by example, shall we expel it from our educational plan altogether ? Or shall we oblige the Protestant child to study the Catholic version of history, and vice versa ? Certainly, it is quite as just and politic to oblige the one as the other ! Shall the "*majority*" control this ? Who gave the "*majority*" any such power or right ? With us, the "*majority*" controls the "*State* ;" and we have seen that the "*State*" becomes a usurper when it attempts this ! We are quite sure that, if the Catholics were the "*majority*" in the United States, and were to attempt such an injustice, our Protestant brethren would cry out against it, and appeal to the wise and liberal examples of Prussia and England, France and Austria ! Now, is it not always as unwise, as it is unjust, to make a minority taste the bitterness of oppression ? Men governed

by the law of divine charity will bear it meekly, and seek to return good for evil ; but all men are not docile ; and majorities change sides rapidly and often in this fleeting world ! Is it not wiser and more politic, even in mere regard to social interests, that all institutions, intended for the welfare of the people, should be firmly based upon exact and equal justice ? This would place them under the protection of *fixed habit*, which in a nation is as strong as nature ; and it would save them from the mutations of society. The strong of one generation may be the weak of the next ; and we see this occurring with political parties within the brief spaces of Presidential terms. Hence we wisely inculcate moderation and justice in political majorities, under the law of retribution.

Profoundly impressed with these views, and impelled by this commanding sense of duty, our Catholic people have created a vast network of schools over the country, *at a price* which the world knows little of—the sacrifice which the poor man makes, who curtails the wheaten loaf that he may give to his child the spiritual bread ! Ah ! how many humble cottages and dreary tenement-houses could testify to that ! There are six millions of them here now ; and still they come, from the deserted hearths beyond the seas. They are upright, industrious, and love the new land like the old ! In war they shoulder the musket ; in peace they are found filling every avenue of labor and enterprise. They contribute millions to the public revenue, and hundreds of millions to the productive industry of the country. Their own welfare, and the highest interests of the country demand that their children and their children's children should be well instructed in secular learning, and thoroughly grounded in moral and religious knowledge. As we have shown, they cannot avail themselves of the public school system, as now organized, though they contribute largely to its support by their taxes. *They do not desire to interfere with that system*, as it seems at present to meet the wants, or at least the views of their Protestant fellow-citizens ; and they are, therefore, *not* “opposed to the common schools” in the sense in which they have been represented to be. They simply ask that they may be allowed to participate in the only way open to them, that is, by the apportionment to them of a ratable part of the fund, in aid of their existing schools, and of such others as their numbers, in any given locality, may properly enable them to establish, subject to the limited supervision of the State, as we have before explained. We need go no further than Canada, to witness this system operating harmoniously and to the best advantage. The argument generally used against it is, that this would destroy the unity and efficiency of the whole. Why is it not so in Prussia, Austria, France, England, and the British Colonies ? Besides, the Catholic populations in this country are very much aggregated, as in Baltimore, Philadelphia, Boston, New York, Brooklyn, Cincinnati, St. Louis, Chi-

cago, Milwaukee, and in the large agricultural settlements throughout the Northwestern States. Certainly, in such localities there could be no difficulty. It is contemplated by the school law that all these are to be educated. Then, why can they not be permitted to organize separate schools, as in the countries referred to? Such organization would be an integral part of the whole system; and the cost would be precisely the same. In fact, we learn from the Reports of Assistant Superintendents Jones and Calkins, made to Hon. S. S. Randall, the City Superintendent, and also from his Report made to the Hon. Board of Education, in December, 1866, that the school room provided in the City of New York (especially in the primary department) is altogether inadequate; and yet, we know that tens of thousands of Catholic children could easily be cared for, if the means were afforded those, who, even now, with the scantiest resources, are erecting parochial schools all over the city.

It would be impossible, in a brief article, to enter into details. Our purpose has been rather to set this question before a liberal public in its great leading aspects, as we are quite willing to trust to the wisdom and experience of our legislators to devise the proper plan and specifications. They will be at no loss for precedents. The statute books of half a dozen countries may be consulted profitably. All we ask is, that this momentous question may be candidly considered and justly and generously disposed of. We hope that the day has gone by when such a question as this shall be met with passionate declamation or the obsolete cry of "no-popery." Disraeli has failed to stem the tide of popular Reform in England by reviving the insane clamor of Lord George Gordon. The world has outgrown such narrow bigotry. Vital questions, affecting the conscience and the rights of multitudes of men, and deeply involving the welfare of nations, must henceforth be settled by calm and just decisions. Christendom will tolerate nothing else now. And, surely, this free and wise Republic will not be the last to put into practice those principles of equality before the law, justice, and generous confidence in human nature, which it published to all the down-trodden nationalities of the Earth, almost a century ago, over the signatures of Hancock, Livingston, and Carroll of Carrollton.

It is a great point gained, if we give the mind a desultory familiarity with every subject to which at length the attention is to be strenuously directed; for it is by this means, chiefly, that we are to guard against those rigid intellectual habits, and those exclusive professional tastes, which when once formed are seldom if ever broken up, and which render high attainments so often the means rather of narrowing than of expanding the mind.

THE NOMINAL SCHOOL AND THE SCHOOL OF THE WORLD.

MORE or less conscious in the minds of a large class of intelligent people there exists a spirit of criticism which prompts the drawing of comparisons between the importance respectively of the nominal school and the school of the world. Said a fair representative of this class—a New York financier of high standing in business and social life, one who, in early life, had had but scanty experience of the nominal school—whose education had, indeed, been almost entirely acquired in the school of the world, a man of refined manners and good conversational faculty—to one who had been lauding the nominal school to the disparagement of the school of the world: “Without going to school one may learn all that is necessary to fit him for the duties of life. He may learn to speak and write correctly without becoming acquainted with the rules of grammar or rhetoric or logic. The public journals, from among which one has the right to choose; the rostrum, the stage, the picture-gallery, science, art, the great world itself,—all are at the command of a man’s pocket. Men meet, and their minds collide and give one another polish; or commingle and multiply facts and opinions, to the enlargement of the views of each mind and the attainment of truth by the general mind. And what becomes of your graduate after his year of study in the schools? He is shut up. He is shut out from the world, unacquainted with the world, exercising little influence in directing and controlling the affairs of the world. He is not what the world needs. He has not fitted himself for the world. In many cases *he becomes a mere teacher of boys.*”

To what extent the concluding remarks spring from that spirit of jealousy which exists in the mind of the business class for the schooled class, is for the observer of human nature to decide. The final remark will, perhaps, serve only to show in what estimation a wealthy and intelligent man of business may hold the hard-working class composed of teachers. That the speaker uttered some truth will no doubt be clear enough to any one.

The important fact to which he called attention was this: that a man may, without going through the nominal schools, become fitted to fill gracefully some of those spheres wherein the highest intelligence is requisite. The world knows precisely what it wants in order to its highest advantage, so far as convenience is concerned; and schooling in the world tends to fit a man to supply the want. The schooling of the world and the schooling of the nominal school differ chiefly perhaps in this,

that the nominal school teaches the pupil principles for their own sake ; the world, for the sake of applying the principles to the world's use. The pupil of the nominal school looks over the world for the sake of knowledge ; the business man for the sake of knowledge, calculation, and execution. In mathematics, metaphysics, and other sciences, the pupil of the nominal school may find an opportunity for mental gymnastics other than what relates to the memory. But he engages therein either under compulsion, emulation, or love of study—motives that singularly fail with a large class of pupils. The business man has not only these motives, but the additional motive of securing wealth and position.

There is no doubt that the man nominally schooled has an original advantage over him who is not so schooled. Let the two enter upon active life at the same time, the one schooled, the other unschooled—the two being equally gifted by nature and blessed in circumstances, and equally practical—and we have no doubt that the schooled man would excel in the race. He would have a superior consciousness, such as would enable him more readily to recognize and classify what his eyes would rest upon ; and a training such as would prepare him better for calculation and enterprise.

Yet the man who has been schooled in the world is better prepared for immediate action in the world ; and therein a man may be so schooled, without the advantages of nominal schooling, as to be fitted for the positions which in the eyes of the world are of primary importance—positions that require broad intelligence and a high order of intellect, and which, accordingly, command the highest respect.

It is clear that the world not only develops in the mind, to a much greater extent than does the nominal school, most if not all of the principles that are taught in the latter, but it really does more. It teaches much that the nominal school does not teach—principles and practices that are essential to the convenience of the world ; and it is a question of the utmost importance whether it is not really so outstripping the nominal school in effectiveness that intelligent parents will come to consider it expedient to shorten their children's course of nominal study, in order to hasten their entrance upon the sphere where they may learn more of what is essential to success, in a briefer period of time.

It is no doubt true that the world is now in a condition to teach nominal teachers what to teach ; to suggest a reformation of vital importance in the character of the curriculum of study.

The fact that the world has been self-taught, and that almost wholly unconsciously, is in favor of the suggestion that our teachers should learn from it what to teach. They may look upon it as the naturalist looks upon nature—not to teach, but to learn.

The school holds a high position in the esteem of men ; but it stands

before the world in the mediæval gown that commands reverence more for its mystery than because it is understood. It has made and is still making progress ; but notwithstanding its progressiveness, it has clung to tradition and prejudice, and has settled down too much in dead mechanism. It still regards the puerile as essential ; formality as the sign of intellect ; nominal study as the badge of exclusiveness ; the grave-clothes of the past as becoming habiliments for the outdoor business of the living present.

It is when things are in such a state that reforms come. The signs of the times denote that a reform in matters pertaining to the nominal school is at hand. Some schools are anticipating the reform, and are beginning the work themselves. We believe they will find ample recognition and support.

SCHOOL COMMISSIONERS' DUTIES IN CONNECTION WITH TEACHERS' INSTITUTES.

SOME months ago we had the pleasure of calling the attention of teachers in the rural districts to certain suburban refinements in methods of conducting Teachers' Institutes.

Another session of the same Institute affords an equally good text for, and illustration of, the duties of commissioners in connection with such meetings : that is, as developed by the honorable officers through whose exertions the Institute of last year was indebted for its peculiar excellence and great success.

It is proper for us to state just here, by way of explanation, that in our article of last February, the honors of the occasion were somewhat unjustly distributed. Sufficient distinction was not made between the three commissioners who presided on that occasion. They were commended as a body, whereas the credit was really and wholly due to two of them—the two whose conduct was so conspicuously exalted at the recent meeting, and whom we now propose to hold up for the encouragement and emulation of less progressive Guardians of Education. The third commissioner in no wise deserved to share their laurels. In fact, with singular perverseness, he did all he could to resist the innovations of his spirited associates in office, but was powerless to check their career.

This year the two exalted commissioners—evidently discouraged and provoked by our failure to render them strict and undivided honor last year—determined not to make another effort. But the Department of Public Instruction was inexorable. It insisted on the fulfilment, partially at least, of the requirements of the law. And what made matters

worse, one of the most efficient and experienced teachers of the State was sent to conduct the Institute. Finding it impossible to escape the imposition, the two champions of the educational rights and privileges of their respective districts fired up for the occasion, and soberly set to work to counteract the efforts of the Conductor and the influence of Commissioner number three, who, with equal obstinacy, and greater success than last year, stuck close to the institute, and worked hard all the time to keep the members at the old-time drudgery of hearing instruction and discussing questions of school management.

Thus opposed by their associate in office, the Conductor sent by the Department, and above all, by the great body of teachers who would not share their inspiration, the two commissioners were not so successful as they had hoped to be. Yet their efforts were so spirited in character, so original, and withal so creditable to the office, that we deem them worthy of the emulation of all school-officers whose duty calls them to preside at teachers' meetings. Indeed, we have thought it not improbable that there might be deduced from them certain general rules of duty which would be of very great service to officers of inferior spiritual elevation and experience. With this intent, we submit the following :

Rule 1. It is the duty of Commissioners to test the professional zeal and the moral courage of teachers when institutes are in session.

A nice way to do this is to stand on the steps, or in the bar-room, of the nearest public house, and address inquiring teachers with : "Go'n to th' Institute, hey? 's across th' r-road, there ; 's a one-horse affair, 'n don' amount to much !"

Rule 2. It is the duty of Commissioners to test the patience, presence of mind, and temper of the instructors of institutes.

This may be done by coming into the meeting and engaging in loud talking, and chattering with such girls as are willing to join with them, or are afraid to resent the interruption. And when the Conductor, not knowing that the disturbance is "official," politely asks for quiet, and attention to the teacher, the Commissioner should jump up and say, as snappishly as he may be able to—"I presume you mean *me*, sir ! I have a *right* to talk here, and *shall* talk !" And when the Conductor proceeds to say that he was not aware before who caused the disturbance, the Commissioner should interrupt him by snarling : "I was not disturbing anybody, sir ! I have a right to talk here, and have no apologies to make !"

Rule 3. It is the duty of Commissioners to encourage teachers to visit schools in neighboring towns while the Institute is in session.

It is not at all necessary on such occasions to consult the Conductor of the Institute, so that the projected visits shall not interfere with his order of exercises. The Conductor will be highly delighted at any time

to have his classes broken up by such timely and praiseworthy excursions. That a larger number of teachers may be led away, it is a good plan to *solicit* invitations to visit schools, from Boards of Education, who, without such official incitement, might not think it the proper thing to divert the teachers in that way from the ordinary routine of Institute exercises.

It is a good plan also, if proper secrecy is exercised, to let a few friends know that the excursion is planned "just to break up the d—— thing."

Rule 4. While it is the duty of Commissioners to grant certificates to such as apply therefor and are found on examination to be duly qualified, it is a special duty of these officers to take the applicants (in classes as small as the candidates dare form, especially if they are young ladies) into a convenient class-room, and then and there address them, on any subject that is not professional, in the highest style of spiritual exaltation, that their desire for certificates will enable them to listen to.

Should any candidate object to the discourse, or manifest her natural disgust at that sort of proceeding, she deserves to receive no certificate. Should any teacher, holding a certificate, give offence to a Commissioner (at the Institute or elsewhere), it is the duty of that officer to annul her certificate. If the certificate be from the State, and thus above the Commissioner's reach, he may inspire the offending teacher with a wholesome respect for his authority by condemning her school-house.

Rule 5. When Commissioners, returning from a protracted absence from an Institute, find that the Conductor, and the Commissioner who has faithfully aided him from the beginning, have decided to cut short the period of the Institute, it is the duty of the said Commissioners to set upon the Conductor and insultingly demand by what authority he presumes to do such things without consulting them.

And that Commissioner who is fullest at the time, may divide his efforts between maintaining an upright posture, and giving the Conductor to understand that the Department had ordered that the Institute be held "*a full week*,—underscored, sir! **A FULL WEEK**;" and that the Commissioners are in duty bound to see the order carried out.

Rule 6. When the Conductor stubbornly, though politely, declines to hold the Institute after five-sixths of the members shall have gone away—thus frustrating the Commissioners' conscientious desire to obey the instructions of the Department—it is the duty of the Commissioners to concert a plan by which to "break up the Institute in a row."

Rule 7. In the fulfilment of this laudable determination, it is the Commissioners' duty to cease to bless the Institute with their absence. They should appear upon the scene, full of inspiration for the good cause, wind their way to the Conductor's stand, demand the rolls, and proceed to sit in judgment thereon.

With judicial gravity and sobriety, they should spell over the record, while the Conductor is addressing the assembled teachers; and after much deliberation and no little talking in under-tone, they should demand that the teachers who have been absent with them, shall be enrolled as "present."

The Conductor will have to be a gentleman of infinite suavity and firmness and tact, to succeed in maintaining his position and at the same time stave off the impending "row."

Rule 8. When the time fixed for adjournment draws nigh, and the Conductor politely offers the members of the Institute an opportunity to make such remarks as they may feel inclined to, it is the duty of the Commissioner self-appointed to begin the disturbance, to deliver himself of a maudlin harangue, alike insulting to the Conductor of the Institute, the Commissioner who had supported him, and the teachers who have zealously sustained them both.

Rule 9. When the Commissioner appointed to follow in the assault, proceeds to "pitch in promiscuously," and finds himself neatly flanked by a quick-witted young lady who proposes a vote of thanks to the Conductor, which the teachers take up and carry with hearty unanimity, thus calling out a response from the Conductor who completes the victory by promptly asking for "Old Hundred;" it is the duty of the said Commissioner to succumb gracefully, to steady himself by a firm hold of the Conductor's hymn-book, and serenely blend the incense of his breath with that of the victor, joining vigorously with him in the closing hymn. Such pious resignation to the dispensation of Providence is peculiarly impressive: especially to such as are permitted to witness the after scene, when Commissioner No. 1 berates Commissioner No. 2 for failing to come to time; and Commissioner No. 2 justifies the failure by sputtering: "D—— 'im; he didn't gi' me a chance!"

Rule 10. (Optional.) When the teachers are assembled, the evening of adjournment, for a quiet, social reunion, it is the duty of the Commissioners to introduce each other to the lady teachers of their respective districts.

And when a sensible and sensitive young lady is honored by an extension of official acquaintance (which she dares not decline), it is a very handsome thing for the Commissioners to stand by and pass tipsy comments on her loveliness, and brag of her as "the prettiest girl in the country." Young ladies of ordinary refinement cannot fail to be pleased at being called "a sweet creature" in such a delicate way, by men whose official position alone would justify their appearing in her presence. Should the assembled teachers fail to appreciate the efforts of the Commissioners to give *tone* to the meeting, and manifest their perverted taste by systematically "snubbing their superiors," the proper course for the

latter to pursue, is to retire to another apartment and there refresh themselves in private—concocting meanwhile such schemes for the elevation of the teachers, as the inspiration of the occasion may naturally give rise to.

We might enlarge upon these several duties of School Commissioners, but it will not be necessary. It would be easy also to increase their number; but we are afraid of discouraging aspiring officers by an over-long lesson. Any Commissioner who shall emulate the example of these suburban guardians of the minds and morals of the rising generation, and faithfully observe the few rules we have set down, will richly deserve with them the special consideration of the powers that be.

THE TEXT-BOOK DESPOTISM.

IT is noticeable how, in using a good thing, we are sure at last to abuse it. As a striking example of this human weakness, we refer to the manner in which we have turned the school text-book from a servant into a master.

The original design of a text-book is a serviceable one. The design is to present within a small space the principles of a sphere of knowledge in their latest developments and applications, so that the pupil may have the principles at hand to refer to when the teacher is absent.

But we have come to use these books as the superstitious use their printed forms. What the text-books contain is truth; everything that rises spontaneously in the mind or that is contained in other books is to be ignored. A case is just at hand. It is that of a young lady who was undergoing examination for graduation from a normal school. The question was put, "What is law?" and she dared not insert in her answer a reference to the two elements of law, direction and control, for fear the answer would be marked as incorrect, since in the text-book in use no reference was made to these two elements. Another instance presents itself. A senior student in a certain college, a young man of superior attainments in rhetoric, when undergoing oral examination before his Professor, replied to a question out of the realizations of his own mind, quoting, at the same time, language of a number of text-books, and this, too, in obedience to the rhetorical law of completeness. The Professor, who had the text-book of the college before him, interrupted the student. "It isn't here," said he, pointing to the page before him, and grimly smiling. And the remark and grimness indicated the low grade at which the student was to find himself marked on graduation.

This text-book despotism represses the student's originality and mechanizes him. It is clear that it retards education. One of the evils which it conditions, is the opportunities which it opens up for incompetent men to get behind the teacher's desk. An ignoramus "may hear a recitation," and this despotism tends to render the work of teaching a mere process of "hearing recitation."

The text-book despotism excludes the magnetic contact, by means of the living voice—the mind that knows with the mind that learns; which, after all, is the mode of normal teaching. In these latter days, it is serving to bring into existence an enormous quantity of charlatan text-books, all of which, in spite of the critic's warnings, find a sale and a place, and work their pernicious work.

WEBSTER REVISED.

PROFESSOR.—One who makes an avowal of his belief in Scripture; especially an officer in a college or university, whose business it is to instruct students in a particular branch of learning. [*Obsolete.*] A person who is skilled in breaking horses. One who is an adept in sleight-of-hand performances. A teacher of the art of self-defence. A teacher of the art of French cookery—example, Prof. Blot. In fine, the title may be applied to any jackass who has the boldness to assume it.

DOCTOR OF DIVINITY.—A title conferred on a person of profound learning, who has written some work on theology, or by study and research has contributed largely to the fund of Bible knowledge. [*Obsolete.*] A title affixed to the name of a Christian minister having the same force as Reverend prefixed. One of the honorary degrees conferred indiscriminately by colleges on ministers of the Gospel.

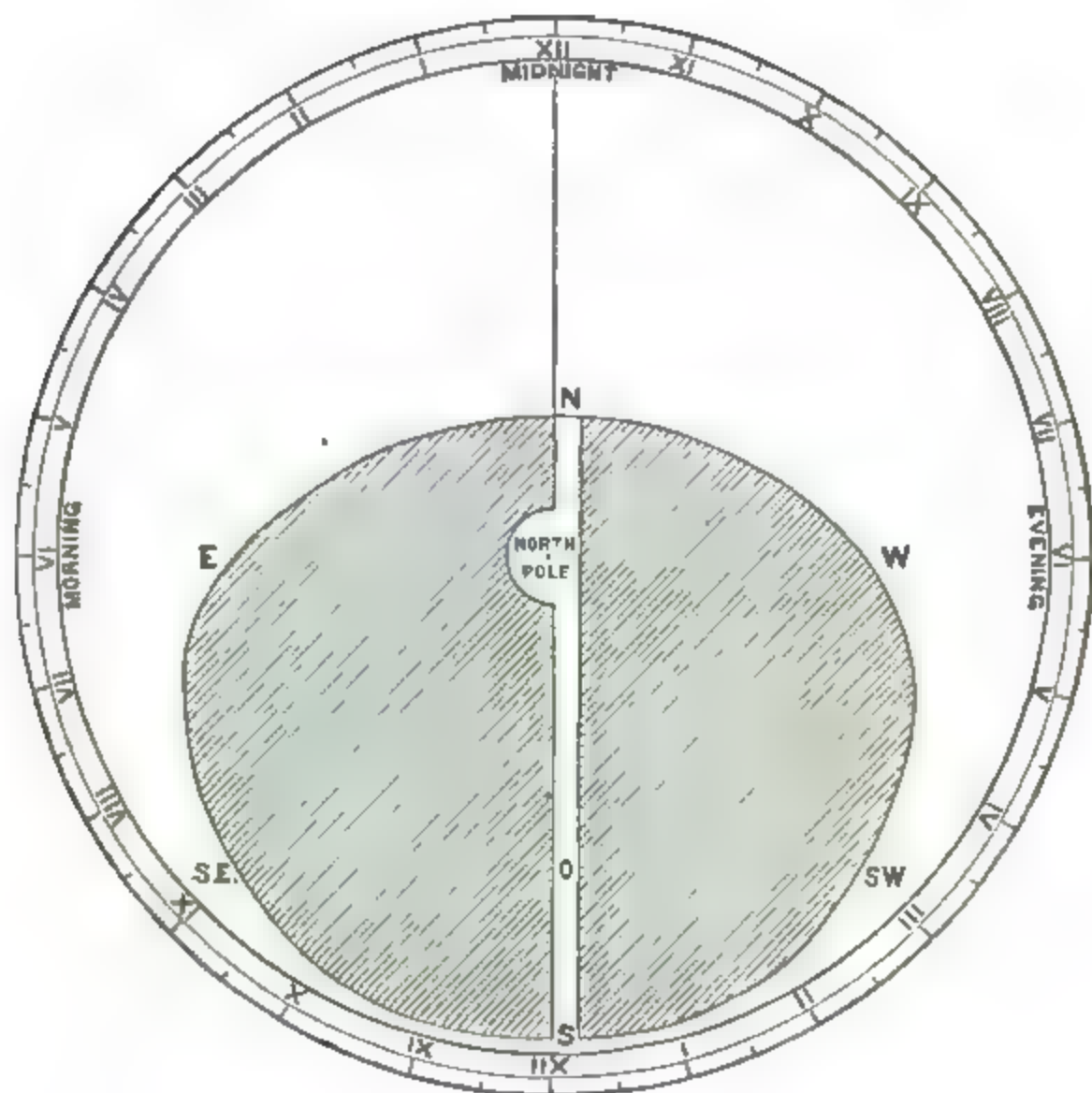
HONORABLE.—Formerly an epithet of respect or distinction given to a member of Congress or a State Senator. The term is now applied to any one elected to a public office, or to a person who distinguishes himself in prize-fighting, embezzling, gambling; etc.; also applied in any case where the word *dishonorable* would be more correctly used.

COLLEGE.—Formerly a society of scholars incorporated for purposes of study or instruction; an educational institution with the powers of conferring degrees on its graduates. Now, a school for the instruction of boys in bookkeeping; a boarding-school, where young ladies are taught music, drawing, etc.; any educational institution where, in addition to a primary and "common English" department, Latin and Greek are studied.—*The College Courant.*

EASY STAR-STUDIES.

THE newer methods of research, and the late important discoveries in Stellar Astronomy, have excited a new spirit of inquiry respecting the more general facts of the science, and moreover, have created a demand for better facilities for acquiring the fundamental truths.

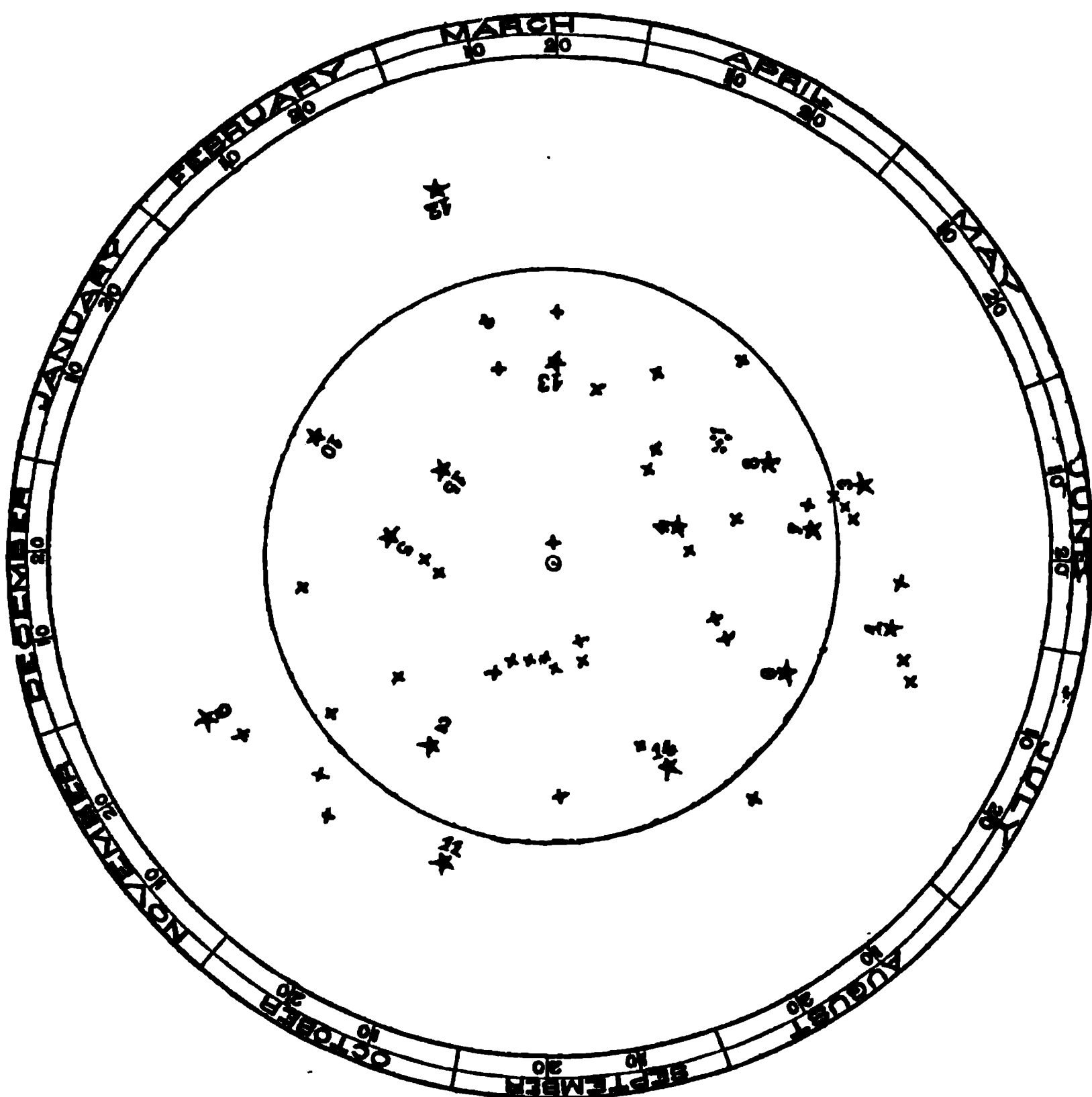
Among the many new and excellent works upon Astronomy, only one or two have afforded the student the means of identifying the fixed stars, while it is among these bodies that scientists are pushing their investigations with such astonishing success.



To be informed through the public journals, as we have been recently, that the star Aldebaran contains Iron and Antimony, but no Tin or Lead,—to be assured that Sirius is moving away from us at a rate far swifter than the earth's motion—and to be told that this bright star has slowly changed from red to white, stimulates a desire in the general reader to acquire a sight acquaintance with these objects of interest.

This desire is not readily gratified at the usual sources of scientific knowledge. The school text-books afford no satisfaction, and the consultation of a star chart or globe, by the inexperienced star-hunter, only results in bewilderment.

Science would be benefited by a more widespread familiarity with the names of the brighter stars. An unscientific casual observer who can describe a meteor's path by its proximity to familiar stars, may render an important aid to the astronomer.



Among the several methods employed by learners, the device known as the movable Planisphere is probably the best.

The honor of the invention of this instrument is due to the celebrated astronomer Bode, who produced, in 1786, a circumpolar map, to be used in connection with a transparent disk, upon which was a marked horizon. The two being adjusted to each other, according to certain

specific directions, the stars visible at any particular given time appeared within the horizon of the disk.

In our modern instruments an opaque card, with an oval open space, has taken the place of the transparent card. This form is believed to be the invention of M. Baudin, a French engineer.

A modification of this form accompanies the present article. The stars of the 1st and 2d magnitudes, only, being given, it is believed that many will accomplish by these simple means the labor which the complexity of the larger charts renders formidable.

To prepare it for use : cut the smaller circle from the paper ; cut out also the shaded portion ; place the centre of the smaller disk directly above the centre of the larger one, and put a pin accurately through both centres.

Now, to bring to view the principal stars visible at any given night and hour, turn the upper card so as to bring the hour of observation to correspond with the given time of year on the lower card. The open space will then exhibit the stars of the 1st and 2d magnitudes above the horizon at the specified time. If the card be held face downward above the head of the observer, with the N. point toward the north, it will exhibit the stars in their positions relative to the real horizon.

The key to the identification of the stars is given below. The stars of the first magnitude are numbered in the order of their brilliancy from 1 to 15.

<i>Number.</i>	<i>Name.</i>	<i>Constellation.</i>
1.....	Sirius.....	Canis Major.
2.....	Arcturus.....	Bootes.
3.....	Rigel.....	Orion.
4.....	Capella.....	Auriga.
5.....	Vega.....	Lyra.
6.....	Procyon.....	Canis Minor.
7.....	Betelgeuse.....	Orion.
8.....	Aldebaran.....	Taurus.
9.....	Antares.....	Scorpio.
10.....	Altair.....	Aquila.
11.....	Spica.....	Virgo.
12.....	Fomalhaut.....	Piscis Australis.
13.....	Alpheratz.....	Andromeda.
14.....	Regulus.....	Leo.
15.....	Deneb.....	Cygnus.

The stars of the 2d magnitude may be located by aid of those of the 1st. Beginning with Alpheratz, No. 13, which is nearly on the first meridian, and proceeding eastwardly, we have, a little to the northwest, *Mirach* of

the constellation Andromeda ; still further in a southeasterly direction is *Mesartim* in Aries ; still further in the same direction and near the Equator, is *Menkar* in constellation Cetus. Between Menkar and the North Pole, about midway, are two stars near each other. They belong to the constellation Perseus ; the most northerly is *Marfak* : the other is *Algol*, the most remarkable of the variable stars ; once every two days and twenty-one hours it fades from the 2d magnitude to the 4th—diminishing in twenty minutes and recovering its brightness in seven hours. The reader may see Algol at its period of minimum brightness at a quarter past seven in the evening (New York time), on the 3d of the present month ; or at a quarter before nine, P. M., on the 23d. On both of these occasions Algol will be found very near the zenith.

Near Capella (4) is *Menkalina* in Auriga : south of Capella is *El Nath* in Taurus. West of Betelgeuse is *Bellatrix* in Orion. The three stars in a row forming "Orion's belt" are named—beginning with the one on the Equator—*Mintika*, *Al Nilam*, and *Al Nilak*. The belt measures just three degrees : it points out Sirius on the one side and Aldebaran and the Pleiades on the other. Between the belt and Sirius is *Mirzam*, while beyond are *Wezen* and *Aludra*, all of the constellation of Canis Major. Between Procyon (6) and the North Pole are the two stars *Castor* and *Pollux* of the constellation Gemini ; Castor is the more northerly and the brighter. Below the equator, and southwesterly from Regulus, is *Alphard* of the Hydra. Northeast of Regulus is *Al Gieba*, and due east is *Denebola*, both in Leo. The seven stars of "the Dipper" are named—commencing with the outermost one of the bowl—*Dubhe*, *Merak*, *Phaed*, *Megrez*, *Alioth*, *Mizar*, and *Alcor*. Megrez is of the 3d magnitude. The two stars below the equator, southeasterly from Arcturus (2) are *Alpha* and *Beta* of the constellation Libra. Near Antares (9) is *Iklil* of Scorpio. Nearly between Antares and Arcturus is *Unuk-al-hay* in Serpens ; a little further north is *Alphecca* of the Northern Crown. The two stars a little to the northwest of Vega, are *Rastaban* and *Elamin* in Draco, the former being the most westerly. Nearly south of them, and nearly between Vega and Antares is *Ras-al-hague* of the constellation Serpens. Three stars form, with Alpheratz, a square, called "the square of Pegasus." The star directly south of Alpheratz is *Algenib* ; west of Algenib is *Markab* ; north of this is *Scheat*. This closes the list of stars of the 2d magnitude. As in case of the 1st magnitude these stars are quite unequal in brilliancy, and astronomers differ somewhat about the number to be included in the list. Castor is sometimes counted as a first magnitude star.

A brief experience with the Planisphere will lead the learner to an acquaintance with the stars described above ; after which, the location of objects by aid of star-maps is easy.

RICHARD GRANT WHITE'S "RELIABILITY."

IN his essay on "Words and their Uses," in the December number of the *Galaxy*, Mr. White says, that *reliable* "is conspicuous among words that are not words," being "anomalous in position and incongruous in formation; that adjectives in *able*, or its equivalent *ible*, are formed from verbs, the passive participle of which can be united with the meaning of the suffix in the definition of the adjective;" as, *lovable*, that may be loved, or *legible*, that may be read; whereas *reliable* does not mean that may be relied, but that may be relied *upon*, and therefore should, analogically, be *reliuponable*. This is the common objection; and hence many writers studiously avoid the use of the words *reliable*, *reliability*, *unreliable*, etc., using *trustworthy*, *trustworthiness*, etc., in their stead. The objection, however, is, to say the least of it, entirely uncalled for. It is founded in ignorance; for *reliable* by no means stands alone. Witness the following, which may all be found in Worcester's Unabridged Dictionary.

ANCHORABLE, capable of being anchored *in*; as, "The sea, everywhere twenty leagues from land, is *anchorable*."—*Sir T. Herbert*.

AVAILABLE, that may be availed *of*, or used to advantage; as, "Our entire *available* force was little less than 6,000."

BOATABLE, that may be boated *over*, or passed over in boats; as, '*Boatable* waters.'

COMPLAINABLE, to be complained *of*; as, "Though both be blamable, yet superstition is less *complainable*."—*Feltham*.

DEMURRABLE, that may be demurred *to*, or objected to; as, "A *demurrable* point."

DISPOSABLE, to be disposed *of*; as, "The office is not *disposable* by the crown."—*Burke*.

INQUIRABLE, capable of being inquired *into*; as, "There may be many more things *inquirable* by you."—*Bacon*.

LAUGHABLE, that may be laughed *at*; as, "Perseus was not a *laughable* writer."—*Dryden*.

UNACCOUNTABLE, that cannot be accounted *for*; as, "There has been an *unaccountable* disposition of late to fetch the fashion from the French."—*Addison*.

UNREPENTABLE, that cannot be repented *of*; as,

"—— vile, unrepented deeds,

Now *unrepentable* for evermore."—*Pollock*.

We do not say that these are all the words of this class there are in the language. There may be others. Mr. White himself gives another,—

livable, in the sense of "capable of being lived in." If he will use his eyes a little, he may find more. The above, however, are enough to show the shallowness of the objection that *reliable* "is anomalous in position and incongruous in formation."

We confess that, for our part, we have a special liking for *reliable* and its cognates. We glory in Saxon words, and admire them for their strength and the heart there is in them ; but, for all this, in four cases out of five, we prefer *reliability* to *trustworthiness*, and *unreliable* to *untrustworthy*. Persons, we may trust as well as rely upon ; but things, we rely upon rather than trust. Hence, while a man may be trustworthy or reliable, his word is reliable rather than trustworthy. In accordance with this, we might speak of a "trustworthy witness ;" but we should unhesitatingly prefer to speak of his testimony as "reliable."

Mr. White attempts to make it appear that *laughable*, one of the words in the foregoing list, is formed from the noun, rather than the verb, *laugh*. But his reasoning on this point shows his entire want of acquaintance with the facts in the case. It is really laughable.

After saying unqualifiedly that "adjectives in *able*, or its equivalent *ible*, are formed from *verbs*," and conjecturing that *laughable* may be an exception to that remark, and adducing *comfortable*, *forcible*, *seasonable*, *leisurable*, *fashionable*, *treasonable*, *objectionable*, and *risible*, as adjectives formed from nouns or "formed upon nouns," he makes the following remarkable statement. "The fact is that, excepting the very few adjectives in *able* or *ible* thus formed upon nouns, most of which I have cited above, and which I believe are only about fifteen in number, every one of the multitudinous class of adjectives formed by this suffix, a class which includes nearly if not quite nine hundred words, is formed upon a verb transitive, and may be defined by the passive participle." This language is precise. It demands the unquestioning assent of the reader ; for he naturally says to himself, "No one would make such a statement, especially would not Mr. White, if he did not know whereof he was speaking." And yet, "the fact is," Mr. White, this sentence of yours contains no fewer than four misstatements :—1. That you "have cited *most* of the adjectives in *able* formed upon nouns." "The fact is," that of words of this class, not including those that are obsolete, given in Worcester and the enlarged Webster, there are, instead of "only about fifteen," at least fifty-six ; and if we include the compounds of these in *dis-in-*, *super-*, and *un-* (and these are properly so many additional words), we shall swell the list to at least eighty-four.¹ 2. That, excepting the foregoing, "*every*

¹ We give, for the satisfaction of our readers, a list of the words referred to. Actionable, argumentable, bankable, carriageable, charitable, (un-,) clergyable, commonable, companionable, (un-,) concordable, confluxible, congeable, conscionable, (un-,) creditable, (dis-,) custom-

adjective in *able* or *ible* is formed upon a verb transitive ;” and, 3. “May be defined by the passive participle.” To show how well fitted Mr. White is for giving instructions on little points of this kind, we give the following examples. And they are but a few out of the many that might be given. *Compliable*, disposed to *comply*,—a verb intransitive. *Transpirable*, that may *transpire*. *Ulcerable*, that may *ulcerate*. *Perishable*, liable to *perish*. *Durable*, that may *last*. 4. That of adjectives formed from verbs there are “nearly if not quite nine hundred.” It is true that, in this case, as in the other, Mr. White errs on the safe side ; he understates rather than overstates. But the reader should bear in mind that Mr. White assumes to state “facts.” He introduces the sentence with the language of one who is supposed to know—“the fact is.” And yet the whole statement seems more like conjecture than anything else. Instead of nearly nine hundred, there are about ten hundred and fifty ; to which if we add, as we should, compounds in *bi-*, *circum-*, *dis-*, *il-*, *im-*, *in-*, *inter-*, *ir-*, *over-*, *re-*, *sub-*, *super-*, *tri-*, and *un-*, we shall find we have about sixteen hundred. Thus, the entire number of English adjectives in *able* or *ible*, not including obsolete words, will be seen to be very nearly seventeen hundred.



THE VENTILATION AND WARMING OF SCHOOL- HOUSES.

TO explain clearly and comprehensively the difference in effect between warming a room by introducing currents of heated air, and warming it by direct radiation from hotter bodies exposed in the room, I find to be a matter of much difficulty. It is, however, one of great importance in forming a correct judgment upon the best means of warming and ventilating a school-house. No more difficult problem is

able, (un-,) dutiable, effluvia-ble, equitable, (in-,) exceptionable, (un-,) exuvia-ble, fashionable, (un-,) favorable, (un-,) flammable, (in-, unin-,) heriotable, homageable, hospitable, (in-,) impressionable, justiciable, laminable, marketable, marriageable, (un-,) medicinal, merchantable, (un-,) objectionable, (un-,) palatable, (un-,) peaceable, (un-,) perditionable, personable, pleasurable, powerable, profitable, (un-,) razorable, reasonable, (un-,) remediable, (ir-, un-,) reputable, (dis-,) salable, (un-,) seasonable, (un-,) serviceable, (dis-, super-, un-,) sizeable, sociable, (in-, un-,) statutable, (un-,) suspensible, treasonable, valuable, (in-) vaporable, veritable, voyageable. We do not include in this list Mr. White's *comfortable*, *forcible*, *laughable* and *risible* ; nor do we insert Hudibras's *untriumphable*, or a number of other words that some would be inclined to place here. Enough are given to show that Mr. White's enumeration is wide of the mark.

presented to the engineer of ventilation than the correct and entirely satisfactory heating and ventilation of a crowded school-room.

In the first place, the active and rapidly developing brains of the occupants are peculiarly sensitive to the benumbing influence of close and poisoned air ; and secondly, as the pupils are confined peremptorily to fixed seats, they have not the liberty to change from one part of the room to another to avoid an unpleasant draught, or to get into a cool, refreshing breeze as a relief from the poisoned air of a foul and stagnant school-room.

It becomes an absolute necessity, therefore, that all portions of the room should be evenly warmed ; while at the same time great care must be taken to avoid currents of air either hot or cold.

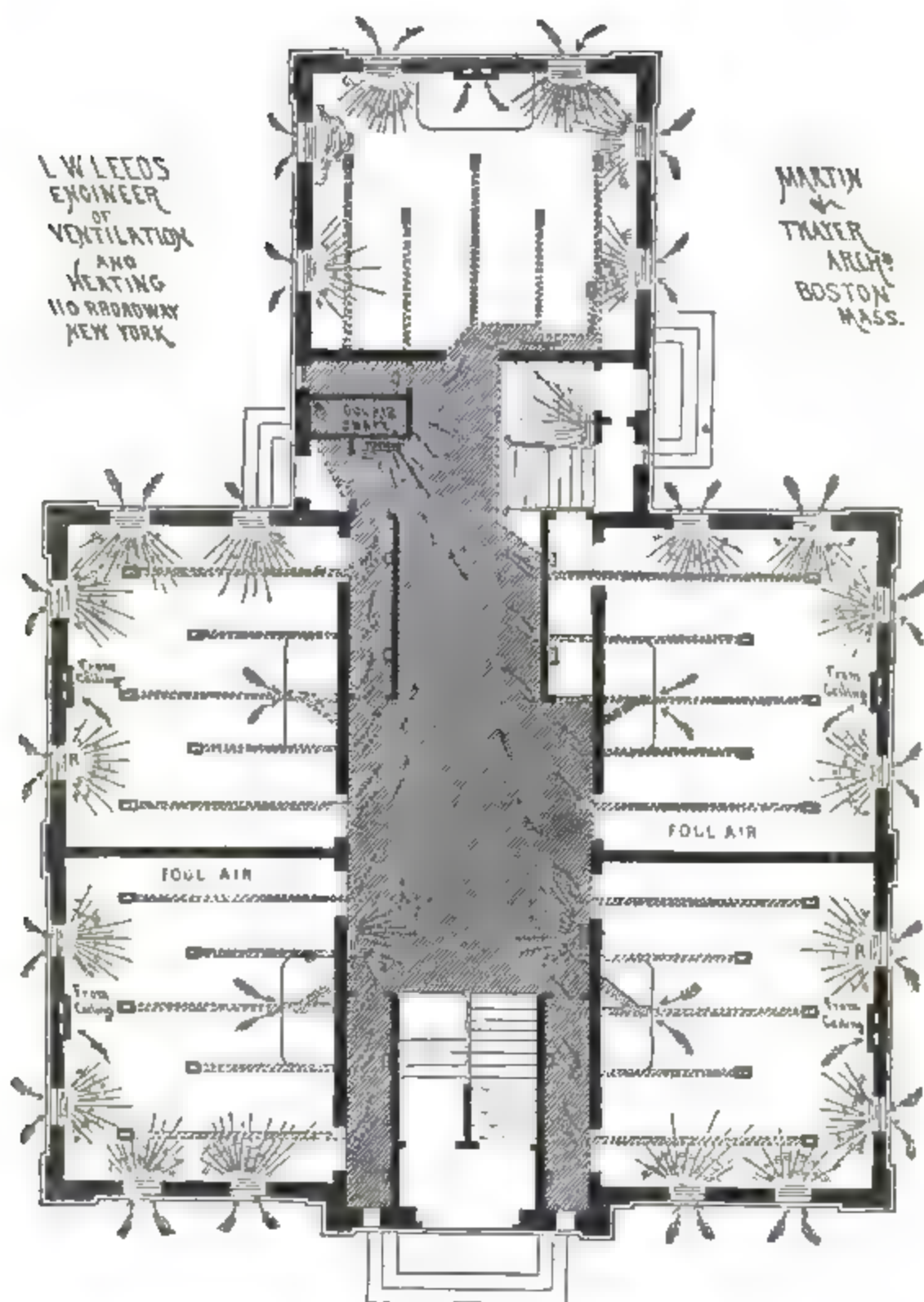
These requirements point directly to the necessity, for as great a distribution as possible, first, of the heat ; second, of the inlets of fresh air ; and third, of the outlets of the foul air.

The physiological requirements are : first, that we should always keep the feet warmer than the head ; second, that we should keep the back warmer than the face. With the student, the brain is the most active portion of the body, and consequently attracts the greatest flow of blood ; while the feet, which are at the greatest distance from the heart and lungs, are more liable to become chilled. In moving about we necessarily face the current ; therefore, for greater protection the principal nerves and more sensitive portions of the body are placed along the back. It is very debilitating to sit with the back to a cold wall, and more especially to a cold window. But if the back and feet are kept thoroughly warm, one can safely have cold air blowing in his face for breathing.

And again, it appears to be necessary that there should be a considerable difference between the temperature of our bodies and the temperature of the air we breathe. We require that difference to be at least 28° . As soon as the air reaches the temperature of 70° we want it kept constantly in motion. Any temperature above that is more or less uncomfortable. Of course we are able to endure a much higher temperature for a short time, but it is debilitating.

On the other hand, the colder the air is, or, in other words, the greater the difference between the temperature of the air we breathe and that of our bodies, the more rapidly the blood circulates and the greater is the physical action of the system. There is twice the quantity of carbonic acid given off when we are breathing air from 10° to 20° than when the air is from 80° to 90° . Every one knows how much more he can do on a clear, bright day in winter, than on a hot, sultry day of summer. Our great aim should be to produce, so far as need be, these most favorable conditions in our school-houses.

To recapitulate: The room should be warmed and ventilated in all parts alike; there should be no perceptible current in any part; the feet of the occupants should be kept warmer than their heads; their backs should be warmer than their faces; and, finally, their bodies should be kept warm, while they have cool invigorating air for breathing.



Now to produce these results, I can scarcely see how we can avoid coming directly to the conclusion that we should warm the floor and exterior walls to a temperature equal to that of our bodies, 98° , so as to

prevent the absorption of the radiant heat from our bodies by the walls. We could then afford to have cool air for breathing, say air at a temperature of 50° . The sun's rays heat much hotter than this even in winter. I have placed a thermometer in a box, protected from draughts and covered with a glass, in a snow-bank, in the direct rays of the sun. It soon rose to 182° , and I believe that carefully conducted experiments have shown that the direct radiation from the sun is sufficient to boil water, even in winter.

It is the important fact that the rays of heat from a hot body pass through pure air without heating it, which makes direct radiation so essentially different from heating by currents of warmed air.

In a room heated by warm air, all the air must be hotter than is required for breathing. It is very commonly heated upwards of 100° ; the solid objects in the room are much colder, and consequently are constantly absorbing the vital heat from the bodies of the occupants, while they are breathing this warm, debilitating air. It is this condition of things that gives that uncomfortable feeling so universally complained of in all rooms warmed by hot air.

On the other hand, it is the powerful direct radiation that comes from the glowing flames of an open fire, often at a temperature of near 3000° , that makes it so nearly correspond with the radiation from the sun, and enables it to produce an artificial warmth unequalled for comfort and healthfulness.

The requirements of the school-room, however, almost entirely forbid the use of open fires, owing to the impossibility of maintaining a uniform temperature over the whole room, and certain other minor difficulties. We must, therefore, accept some inferior arrangement for that purpose.

The accompanying diagram is intended to illustrate an arrangement made for a new school-house in course of erection at Salem, Massachusetts. Although the conditions above specified are not fully carried out in it, yet it is a step very considerably in advance of the ordinary arrangements found in our school-houses.

It is designed to heat the whole building by low-pressure steam from a boiler in the cellar, and to place the steam radiators under each window in all the occupied rooms.

Of course this will not necessarily warm the whole interior wall, as it would be very desirable to do; yet by placing a radiator under each window, a very considerable diffusion of the heat is obtained. Besides, the greatest heat is thus placed immediately below the greatest cold, so that the extremes will modify each other, and at the same time the injurious effects of sitting with the back toward a cold window is very much overcome. I fear few persons really comprehend the sad results of sitting with their backs to a cold window. If the matter is

carefully examined, it will probably be found that many weak and crooked spines, as well as many other weaknesses and debilities, are to be attributed to this cause. A clear comprehension of the effects of radiant heat is necessary to a full understanding of this subject.

If a piece of warm ice, say at a temperature of 31° , be placed near a piece of colder ice, say at 15° below zero, the warm ice will radiate its heat toward the cold ice, and will go on giving away its heat until it has made an equal distribution with its neighbor. And we must remember that a current of heated air flowing upward between these two pieces of ice would have but little effect upon the transmission of the radiant heat.

Now suppose the human body, with its temperature of 98° , be placed near a cold window or wall, the radiation of heat would be much more rapid than it would be from the warm ice, and not being returned or compensated for, the heat, the vitality, the very essence of life would be rapidly extracted from the body. And we must not commit the fatal error of supposing that a thermometer will correctly indicate the true condition of things. While a person may be surrounded by and inhaling a most debilitating atmosphere of 75° or 80° , this does not prevent the loss of heat by radiation; it rather aggravates the evil by reducing the circulation of the blood, thus lessening the amount of natural heat produced.

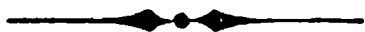
The distribution of the inlets of fresh air and outlets of foul air is of not less importance. Fresh air should be so thoroughly diffused that while there could be no possibility of stagnation, there would be no considerable currents perceptible anywhere. The diffusion of fresh air is quite well provided for by the introduction of air directly under every window and over the radiators.

The manner in which I arrange this is to place the marble slab covering the radiator from two to four inches above the bottom of the sash. Then by simply raising the window the fresh air flows in at the top of the radiator. Its specific gravity being greater than that of the air within, it falls over the face of the radiator, insuring about as perfect a diffusion of pure air as it is possible to have.

The proper place for the exit of the foul air has been much discussed. A few years ago no one thought of anything but taking it from the top of the room; then as soon as it was attempted to warm the room by circulating warmed air, the ventilators had to be closed. Now, the tendency is to run to the other extreme, and to have the only opening at the bottom of the room. This also is wrong, as the excess of the foul air is at the top probably three-fourths of the year. As great a distribution of outlets as possible is therefore important. I think the agitation of the air is the great means designed to maintain its purity. In the

Salem school have been provided, as may be seen, five registers for the escape of foul air from each class-room. These will be equal to an opening of one square foot each, or about one square foot for every ten children. Of course this arrangement is not perfect, but it will answer its purpose tolerably well. The space between the joists, under the class-rooms, is used for foul-air ducts. The ceiling of the hall is furred down from fourteen to twelve feet, leaving a space of two feet for a general foul-air duct, to convey the air to the main upright shaft. Great care is required in the proper proportioning of these air-ducts and in separating them one from another so that they shall all draw evenly, and the foul air not be blown from one room to another. Failures have occurred in attempting to ventilate through the floors in this manner, for want of proper care in this respect. Some power is always required to move the air, as it will no more move itself than water or coal. The variation in the external temperature is the great natural moving-cause. Our buildings obstruct this to a great extent. Artificial heat in the building causes a circulation, but there should be in every good school-house, besides these varying natural forces, a constant positive power always in operation. I think we have nothing at present more simple and efficient than the application of heat to a well-constructed shaft. The smoke-pipe from the boiler or furnace fires generally gives sufficient heat in the shaft during very cold weather, and a good stove or furnace is the best for procuring the required additional temperature during the warmer weather. Ambitious young engineers of ventilation are very apt to adopt the Fan, as that gives a fine opportunity for the display of their engineering abilities. It generally proves, however, very unsatisfactory in result.

The perfection of arrangements for providing artificial warmth has, for many centuries, been a good criterion of a nation's advancement in civilization ; but I think a new era is dawning, in which a nation's ability to keep warm, and at the same time supplied with pure air, will be a much more accurate test of its elevation above barbarism. And I hope that our American Schools will be as prompt in taking the advance in this, as they have been in the many other improvements that have given them their enviable reputation throughout the world.



THE gifts to American Literary Institutions during the last five years, according to the *Congregational Quarterly*, reach the large sum of \$15,212,500. This amount is the result of individual benevolence, and does not include the appropriations by State Legislatures. The amount is distributed as follows :—Colleges, \$8,858,000 ; Theological Seminaries, \$1,359,500 ; Academies, \$1,850,000 ; Societies, \$540,000 ; Education, \$2,220,000 ; Schools, \$385,000.

JANUARY, 1869.

THE YEAR.

EIGHTEEN hundred sixty-eight has been a notable year in education, as in science and politics and nature—though differently.

Some of the grandest fetches of modern science have been made during the past twelve months. Some of the deepest mysteries of the universe have been solved, to the marvellous extension of human ken. The restless heart of Earth has throbbed the downfall of cities and the uplifting of continents. The restless heart of man, struggling with the restraints of centuries, has overthrown systems and governments, lifting nations, let us hope, to a higher plane, and preparing the way for better things to come. Human society is in a ferment, and the leaven of society has not escaped the changes which it has helped to produce. Yet the changes in the condition and prospects of Education, which the year has brought about, the world over, have been germinal rather than fruitful. There have been no brilliant achievements or great catastrophes; but the germs of great things have been securely planted. Those who can see the fruit-bearing tree in the tender blade or the sprouting seed, and those only, will duly appreciate the magnitude of the educational reforms which the past year has seen quietly begun—or, rather, the magnitude of the results which they are destined to produce.

WITHIN the twelvemonth, Constitutional provisions have been made in nearly all the Southern States for the establishment of free public schools. Popular opinion has been greatly improved in regard to the education of the laboring classes. And in many places the work has been successfully begun. We must patiently await the result. The education of a people is not the work of a year.

At the North, the most promising event has been, we think, the opening of our new University at Ithaca. Education, till now, has tended largely to divorce mind from labor. That is, practically. In theory the schools have pretended to prepare the rising generation to do the nation's work better than their fathers had done it. In effect, they have chiefly fostered the idea that the great object of Education is to enable the possessor to live without soiling his hands. They have failed therefore to act as they should, directly upon the class which does the nation's heavy work—the great body of producers.

Reasonably, or not, the instruction given in the elementary schools is determined by what is required by the college. Heretofore, these higher institutions have trained young men chiefly for the so-called learned professions. Possibly but one in a hundred of the pupils of the elementary schools is fitted by nature or permitted by circumstances to enter a college. Yet the course of study pursued in the schools has been shaped to meet the possible wants of the possible one—to the disregard of the real wants, to say nothing of the rights of the ninety-and-nine.

Cornell University will change all this. As a great polytechnic *labor* school, it will, in time, train men for every department of human industry. It will inspire a different ambition, and require a more multifarious preparation, than colleges of the classic sort. It will also dignify labor; and grade the laborer, not according to the material he works on, but by the intelligence with which he works. The public schools will have to supply its demands, while it, in turn, will help to supply the higher demands of the schools. The result can scarcely fail to be the broadening of the schools. They will have to develop and train *all* the faculties of the pupil—not merely his eyes to distinguish the varying shapes of words, and his memory to hold them fast. The needs of the ninety-and-nine will have to be regarded equally with those of the one. Education will thus be brought to a proper basis—the development and culture of the whole man to better fit him to do the world's work. And men, trained to work, will honor the workman. If this does not solve the "labor question," it will surely go very far toward doing it.

THE endowment of schools and colleges continues to be our favorite means of gratifying public and private generosity. In this respect

America presents a striking contrast with other countries. With us, education commands money and land. As a people, we are not less than prodigal in our expenditures for schools. And private benefactions thereto are equally lavish. We think little of granting to a college, from the public lands, a territory equal to a German principality. A private gift of a hundred thousand dollars is nothing uncommon ; and we are not surprised at one of a million.

In Europe they give less money, but more thought. In England, for example, public instruction engages the attention of the best minds of the land. The philosophy of education receives the ripest thought of her ripest philosophers. The same may be said of France and Prussia—in short, of the better part of the continent. Money is more plentiful than thought with us. So we give money. Indeed, we are passing through a sort of epidemic of educational endowment ; for which let us not forget to give thanks : the fruit will ripen by and by. Yet we must not think that money is the principal thing. Without thought—and thought of the highest order—much money may be spent for education without doing education much good. There is danger of our deceiving ourselves. As a people, we are apt to rate our zeal for any cause by the taxes we pay for it, or the voluntary contributions which we make for its promotion. But there are some things more powerful than money, which money cannot buy. Personally we admire, and hope that many will emulate, the munificence of our Cornells and Vassars, our Peabodys and Drews. Yet we would not have it thought that everything needful is done for education, because money is freely given for it ; or that education is the one thing nearest the American heart because of the generosity of the few. The actual fact is, that education holds a very subordinate position in the working affections of our people. Business, politics, pleasure, greed of gain, social position, personal ease, the gratification of appetite—many things, indeed, take precedence of education. With all our pretensions, we are thinking less—really doing less—for the higher culture of ourselves and our neighbors, than are many peoples whom, with serene self-satisfaction, we look down upon as ignorant and slow. Compare Vermont with Scotland, Connecticut with Switzerland, or Massachusetts with Prussia.

THE revolutions of South America retard, but they cannot wholly prevent the advancement of education. Several of the States are striving to imitate their more favored neighbors at the North, with as much success as the wretched condition of South American society gives reason to hope for. Brazil is studying the school systems of the world and the peculiar needs of her own people, with a view to the establishment of a system of public education. The Argentine Republic has lately chosen as her chief officer the man who, perhaps more than any other, has labored for education in South America. And the leading minds of all those unhappy States are casting about to discover what may be done for the elevation of the people. Many years must elapse before their efforts will be crowned with success ; yet it is encouraging to know that the germs of popular education are there and living.

In the Old World, England has failed to fulfil the promises she made a year ago. Educational reform, raised as a party-cry, seemed to be a party necessity. Both parties, however, took it up, and after striving for a time to excel each other in vehement shouting, both let it drop, to the disappointment of many. Yet the agitation effected good. Many grievances were exposed, and public attention was called to the crying need of a better and more efficient system of public education.

Germany continues to lead the world, not only in the *wissenschaftliche Geist*, but in the spirit which educates each and every one of her children. France, from the plane of *la grande culture*, is working down through technical and normal schools, to reach in time every strata of society. Austria has freed her schools from the domination of the Church. And so has Spain. On the other side, Russian tyranny still bears heavily on the schools of her conquered nationalities ; and England emulates the example in Ireland. With the overthrow of the Irish Church establishment will come, we trust, a more impartial treatment of Irish schools.

A new era is dawning in Turkey. Overlooking the Bosphorus, a great school has been begun, wherein Mussulman and Christian, Jew and Gentile, the youth of all the nations and creeds of that strange agglomeration of peoples and religions, lay aside national and religious prejudices to sit at the feet of the "Infidel," to receive the teachings of Western civilization.

Even the far-off Orient has caught the infection. China and Japan vie with each other in casting aside the traditions of centuries, to reap the advantages of Western learning. And not only have they opened their gates to European science and mechanic arts, but they have humbled themselves to invite the "outside barbarians" to come and be their teachers.

THE gains of Education, the world over, have been great. So, too, have been the losses. Death has been unusually busy in the ranks of Educators. Our Necrology for the year includes the names of fully fifty Americans known as prominent teachers and promoters of Education—*eight* of whom were College Presidents. The list of foreign dead is likewise great. More than a score of educators, whose fame extended to this country, or indeed was world-wide, are numbered with those whom we shall know on earth no more.



THE MONTH.

PERHAPS no educational question commands to-day more serious thought than the relation of our public schools to religious instruction. One can scarcely open a school-report or a religious paper without finding some more or less ambitious discussion of the subject, or more or less elaborate indictment of the schools for being "godless," "infidel," "nurseries of intellectual arrogance," and so on. Whether these accusations are well founded, is under discussion. We give the subject the first place in our new volume.

Our personal opinion has been, that the public schools, in a country split up as ours is into innumerable sects, should teach nothing liable to offend the conscience of any. To avoid giving offence, religious instruction would have to be ruled out entirely. But to exclude religious instruction, it seems, is to offend more or less all parties. On every side a change is demanded. We are not so fully persuaded of the perfection of our public-school system as to object to its being altered, or entirely remodelled, if the change is shown to be just and necessary. But before

it is done, or attempted, we should like to see proof that the children trained in church schools, in the "religious atmosphere," make better men and women than the pupils of our public schools. The question must be settled, not on the basis of sentiment, but on that of fact.

WHILE speaking of ourselves it may not be inappropriate to give the reader a hint or two of our plans and purposes for the current volume.

A subject of vital importance to millions of school children and their teachers, is the ventilation and warming of our school-houses. From the costly devices that are being tried for securing warmth and pure air to children in school, it would seem that the great body of tax-payers are also concerned. The article in our present number is intended to be the initial one of a series, in which will be considered the more important plans that have been adopted for the heating and warming of school-houses, with a critical review of the excellences and defects of each.

THERE is a sort of rhythm in the advance of science. Sometimes the emphasis of achievement falls on one department, sometimes on another. For one period Geology astonishes the world with its revelations ; for another, chemistry ; and then, in turn, some other branch excels. Just now Astronomy leads the way. In view of this, we shall give, from month to month, especial attention to the more recent problems and discoveries in this attractive field. The article entitled "Easy Star Studies" will be found of service to those who have not time or opportunity or patience to study the intricacies of celestial globes and maps, and who yet desire to gain a sight-acquaintance with the heavenly bodies, among which astronomers are making such brilliant discoveries. It is intended to mount the Pocket Planisphere on suitable card-board, for the use of students.

WE wish it were possible to impress upon teachers, *all* teachers, the interest they ought to feel in educational journals. Not because we are personally interested in the prosperity of these publications, but for the good of the teachers themselves. There is no better index of the professional spirit and zeal and efficiency of the teachers of any State, than the character of their State journal of education, and the support they

give it. Our circulation reaches every part of the country, and nowhere is it better than where there is a good and well-sustained teachers' paper or magazine. A calling which scatters its laborers as teaching does, cannot hold them together by social ties. There is no way of keeping up among teachers a proper professional spirit, the next strongest bond, except by means of the press. More than the members of any other profession, therefore, teachers need professional papers to keep them awake and in earnest, and in full sympathy with their fellow-laborers. To every teacher in the country we would say: Subscribe for, pay for, and read an educational paper—*THE MONTHLY*, if you please, your own State Journal *any way*. If you think it not good enough, help to make it better. It is because of your neglect that it is not better. It is safe to say that it is worthy of all the support you have ever given it, and more.

In our next number, or soon after, we shall review the work done by the State and local school-journals during the past year.

We shall also publish soon two series of articles on illustrative experiments in Natural Philosophy and Chemistry. So far as possible, the experiments will be such as can be made by the use of simple contrivances, easily prepared or obtained by any teacher; and, for the most part, they will be such as are not to be found in ordinary text-books.

THE publication of our customary Necrology of Eminent Educators will be begun in the next number, or as soon after as the lists can be fully made up. As has already been said, the losses by death the past year were very heavy—heavier even than in 1867, a year of unusual depletion of the ranks of teachers and promoters of education.

Owing to the length of our leading article—to which, we are sure, none of our readers will object—we have been obliged to confine our chapter of "Educational Intelligence" to a brief survey of the schools of Vermont. To such as are not familiar with our custom, it may be said that instead of giving in this department, newspaper fashion, detached items of educational news, our plan is to review comprehensively the condition and prospects of education in particular States and countries: in this way we shall survey in the course of the year, the States and larger cities of our own country, and the principal foreign countries. Educational events deserving immediate notice will be discussed under "The Month."

EDUCATIONAL INTELLIGENCE.

VERMONT.—“An investigation, that has been made with care, shows that during the last collegiate year only one hundred and sixty or seventy young men of our State were members of any college or scientific school.”

Such are the words of the Governor of the Green Mountain State, in his late message to the State Legislature. The cause of this disesteem of education by the young men of Vermont naturally proceeds from the inferior character of the district schools; and the condition of these schools is charged by the Secretary of the State Board of Education to “the general indifference of parents.” The Report of that officer for the year ending September last, presents as melancholy an array of school statistics as can be shown by any Northern State outside of New England. Perhaps New Hampshire, or Maine, or Connecticut, might rival its unenviable record; but we are happy to believe that no other State, north of the now obsolete Mason and Dixon’s Line, can. About a seventh part of the State, that is, thirty-two towns, cared so little for the schools that no statistical returns were made from them. “The presumption is,” says the Secretary of the State Board, “that there were no superintendents, or that they failed to perform any of the duties of the office.” The number of families, in the towns reported, is 54,277, with 75,599 children between four and eighteen years of age. For these there were 2,620 district schools, employing 4,224 teachers. The average attendance was a little short of 50,000; the total enrolment, less than 60,000. There were besides 349 “select schools,” which increased the number of school-going children to 66,405. The number over eighteen years of age attending school, was a little short of 3,000. The average *daily* attendance in all the schools is not given. As 532,460 cases of tardiness were reported, and 78,560 of “dismissal,” it may be presumed that the number in regular attendance was not very large. Less than 9,000 are reported as having no absences,—for what length of time is not stated. That the school terms were short, is evident. The amount paid as salaries to the 4,224 teachers employed, was \$200,693, exclusive of board, that is an average of less than \$50 to each. In addition to this, \$126,714 were paid for board of teachers, or an average of thirty dollars for each teacher. The cost of the living of 1,298 teachers, who “boarded around,” is probably not included in the “sum paid.” Putting all together, it appears that the teachers of Vermont are paid on an average about *one hundred dollars a year!* Certainly not enough to warrant any extensive emigration of teachers to that pleasant region. The condition of the school-houses and their appurtenances does not show to any better advantage than the condition of the schools. Nearly one-third of the school-houses, 808, are reported as unfit for their purpose; and only 234 with yards inclosed. In the 2620 public schools, there are 113 dictionaries, not quite an average of one to 23 schools; 205 globes, 355 maps, and 144 clocks. The blackboards come very near equalling the schools in number, that is 2,134, size not mentioned. With such a plentiful lack of aid and comfort, it is not surprising that the teachers do not stay long in a place. Of the 4,224 teachers employed, only 757 are

reported as having taught before in the same district; 1416 had *never* taught before; the remaining 2061 were strangers in the land. Their next move, one would think, would be *out* of the employment; unless they are of that unhappy class, who, according to the out-spoken Secretary, "remain permanently in the profession" because they "have too little ability to insure success, and too little enterprise to risk a failure, in those professions where success insures a more remunerative reward, and where there is a higher order of talent to compete with."

But we do not despair of the State. The sky is brightening. The Legislature took this matter in hand at its last session, and with characteristic liberality decreed that "the time, *not to exceed two days*, actually spent by any teacher of a public school in attendance upon a teachers' institute held pursuant to law during the time for which such teacher is engaged to teach such school, shall be considered as time lawfully expended by such teacher in the service of the district by which he is employed, and in the legitimate performance of his contract as teacher!"

CURRENT PUBLICATIONS.

"GET the latest; get the best." This has been ringing in our ears almost incessantly while we have been looking over the pages of one of the most refreshing of books, the most recently published English Grammar that has come to our notice—Vickroy's.¹ "In the grammars in use," the author says, "the errors of former ages are repeated." In this work, comparatively few of those errors are found. The errors that do appear are mainly original—those of the present age and of the present author. Mr. Vickroy assures us that he "has made free use of other systems," yet he has generally done his own thinking in his own way, and the result is, he has brought out a new system—a somewhat peculiar system, it is true; still, it has the merit of originality. The principles embodied in his little book (and it is little in more senses than one), he says, "have been developed and tested in the recitation-room, and have been adopted only after careful consideration." Let us hope, therefore, that they will bear to be tested outside of the recitation-room.

We gird ourselves for the task, and proceed to notice a few of the excellences of this latest candidate for "orders."

The first is its complete system of classification. This is the prominent feature of the book. Indeed it crops out on every page. It makes us feel that the author should have devoted his wonderfully analytical powers to the higher mathematics rather than to the elements of grammar. Those, however, who are in search of a skeleton-like embodiment of grammatical facts and fancies, who go on the principle that "the nearer the bone, the sweeter the meat," will find this book just to

¹ The Principles of English Grammar, by T. R. VICKROY, A. M. Philadelphia: J. A. Bancroft & Co., 1868. 12mo, pp. 214.

their taste. They may possibly object to the scarcity of the meat. But we assure them that what little there is, is all the sweeter on account of the numberless bones from which it must be picked. After a thorough overhauling of these bones, or (to drop the figure) after a careful examination of the book, we find that the multitudinous classes and subclasses into which the author has so studiously divided and subdivided the subject may, in the main, be rearranged, from an esthetical point of view, into the following classes. 1. The just and necessary. (This, by the way, is a comparatively small class; and, showing as it does where "the author has made free use of other systems," it can scarcely be considered an excellence of this book in distinction from other books.) 2. The fanciful. 3. The false. 4. The useless. 5. The defective. 6. The redundant. 7. The inconsistent. These are so felicitously intermingled with each other that we can scarcely give examples of one without giving examples of others at the same time. We shall have to satisfy ourselves and our readers, therefore, with illustrating the correctness of our classification of the author's classifications, not singly, but in the mass. We premise, however, for the benefit of those who have not seen the book, that we may quote therefrom several new words whose meaning they may be at a loss for, if they are merely English scholars. But, in order to make everything clear, all they will need to do will be to spend a few years in studying Greek and Latin.

Under the head of what the author calls "Parts of Speech" (some would have said *The* Parts of Speech), words are divided first into three classes: "I. Ideatives. II. Connectives. III. Particles." These are then subdivided so as to make in all just thirteen parts of speech—a good, old-fashioned, round count, somewhat obsolete nowadays. Some of this work of classification may be deemed useless. But we assure our readers that "useless" is not just the term to apply to generalizations the object of which is "to present the subject in a clear light." For instance, among the Ideatives the author places Pronouns and Adverbs; then among the Connectives he gives Conjunctive *Pronouns* and Conjunctive *Adverbs* as distinct parts of speech. Among the Connectives he classes Conjunctions; then among the Particles are found Correlatives, as another part of speech, of which the only example given is, "*Though* he was rich, *yet* he became poor." Turning to page 89, we find *though* given also as a "Conditional Subordinate *Conjunction*," and *yet* as a "Correlative Concessive Subordinate *Conjunction*." We admire the simplicity of such generalizations, and doubt not that most of our readers will also. There may be some, however, to whom it may seem as though the author had got his classes somewhat mixed. But they should remember that, to have a thing thoroughly impressed on the mind, it needs to be repeated again and again.

Personal Pronouns are, for obvious reasons, divided (p. 38) into "(a.) Simple. (b.) Compound. (c.) Adjectival." The "Adjectival Personal Pronouns" are the forms *mine, thine, hers, ours, yours*, etc., which are never used adjectively, and therefore very appropriately called "Adjectival." For this reason, doubtless, the author, in prosecuting his new system of generalization, a little further on (p. 45) varies this name slightly, and calls them "Adjectival Pronominal Adjectives." This, however, is only a subdivision of Definitives, one of the three grand divisions into which all adjectives, after due process of developing and test-

ing, have been thrown by our analytical author. In full, therefore, the new baptismal name of the possessive forms *ours*, *yours*, etc., is either "Adjectival Personal Pronouns," or "Adjectival Pronominal Adjectival Definitive Adjectives;" which reminds us of the classic name of a fair colored girl, whose poetically disposed parents called her Martha Ann Amelia Ann Nancy Cunningham.

Verbs, our author divides into—I. Infinite, and II. Finite. This certainly is clear, definite, and all-embracing. An Infinite Verb, however, consists of "*The Infinitives, The Participles, and The Imperatives.*" And Imperatives belong to an "Infinite" verb clearly because "they are without limitation and agreement with a subject. This "has been developed and tested," thus :

" Singular.

1st Person.—Let me love.

2d Person.—Love.

3d Person.—Let him love.

Plural.

Let us love.

Love.

Let them love."

You don't *see* any subjects here, do you, reader? Neither does Mr. Vickroy, A. M. He sees, however, two numbers and three persons. We hope, dear reader, you understand what grammatical infinity is. Don't think there is anything crude, or queer, or contradictory in these generalizations. They are in perfect accordance with the principles of the entire system—a system which, according to Mr. V., "accords with the present state of Philology and Mental Science, and which has been adopted only after careful consideration."

Verbs are moreover divided "according to their syntactic uses into two classes" with sweet little names, "viz., (1.) Attributive Verbs, and (2.) Complementative Verbs." No doubt they feel complimented thereby. Of Attributive Verbs "there are four kinds: (a.) Intransitive. (b.) Copulative. (c.) Inceptive. (d.) Indefinite Transitive." As a specimen of Inceptive Verbs the author gives, "The fields *look* green;" because *look* "asserts the incipency of an act." Of course, in the "testing" of this in Mr. V.'s recitation-room, it was evident both where the "act" and where the "incipency" of it comes in. If any of our readers have doubts on this point, we must inform them that the allusion is to the spring of the year, when fields generally "look," i. e., "begin to do" verdant. Of Complementative Verbs our little book tells us, in terms charmingly euphonious and marvellously transparent, especially to little folks, "there are four kinds: (a.) Definite Transitive. (b.) Transito-Dative. [A misprint, probably, for *Transito-Definite*.] (c.) Transito-Copulative. (d.) Transito-Partitive." We turn to the preface and find that "the author has introduced new terms *only where his generalizations* have required them." The thought is refreshing! *Only* there!

Let us a moment look at some of these new terms—nice little philological stones for boys and girls to run their little intellectual foreheads against in striving to scale the heights and sound the depths of this charming science—bewitchingly charming, as most youths will testify. On the very threshold of the work, instead of the "Etymology" of the grammars in use, the reader will find "Morphepology," which, of course, he will get over without stumbling. It looks suspicious, it is

true, to see a big bully of a word like this, standing right at the entrance of the seemingly Elysian fields just before you. But don't be afraid, young friends. Like Bunyan's lions, it is chained. It can't bite. Once pass it, and all is easy. The words and expressions that follow, though many of them are rare, are all delectably sweet, in no danger whatever of breaking your jaws, exceedingly easy of digestion withal. Try a few, and see. They are perfect sugar-plums. Samples free:—Herma-neutics, Ideatives, Continuants, Coalescents, Categorical, Articulatory Organs, Conjunctive Adverbs of greater or lesser inequality, the Essentia and Differentia of sentences, Quantitative Complements, Modal Propo-sitions whose predicates express excogitation.

But we pass on. Another excellence of this work is its clear and logical definitions. Take, as a fair sample, the first definition of the book:—"Language is the *embodiment* of a mental act in articulate sounds or words." What can be more logical? Because speaking or writing is the embodiment of ideas in words, and in speaking or writing we use language, therefore language is the embodiment of mental acts in words. Why, the logic of lunatic-asylums can scarcely beat that! A noun is lucidly and concisely defined as "a word which *expresses* the whole or a distinct part of a thing." Take the sentence, "Of all the months in the year, seven have thirty-one days each." Here each of the words *all* and *thirty-one*, "expresses the whole;" while *seven*, and *each*, respectively "express a distinct part of a thing." These words, therefore, though vulgarly called adjectives, when properly "tested," prove to be nouns. Here is an exceedingly lucid and striking definition: "A Compound Personal Pronoun is a pronoun which shows the relation of an object to the speaker; as, *James hurt HIMSELF*." This is as clear as an autumnal fog off the coast of Newfoundland. The subject of a sentence is said to be "*that* of which something is affirmed;" as when we say, "John writes," not the word *John*, but the person denoted by that word is the subject of the sentence. And the author really means this; for on page 109 he says, "The subject of an imperative sentence is *the object ad-dressed*." And according to his definition, a sentence is "a mental act;" and the subject of a mental act is, of course, some object of thought, something conceived of by the mind. We cannot too highly commend the logical correctness of these definitions, even though we ourselves hold that a sentence is *a combination of words* expressing a men-tal act, and consequently that the subject of a sentence is a word, or a combination of words, representing that of which something is affirmed.

There are quite a number of definitions and remarks which, notwith-standing their original excellences, show that the author has made rather too "free use of other systems," so that we fear he has been betrayed into at least one of "the errors of former ages," the confounding of thoughts and things with the words employed in regard to them. Here is an ex-ample or two. "A transito-partitive verb is one that asserts an activity which affects only a part of its complement; as, *He DRANK* (of the) *water*." The "complement" of *drank* here, of course, is the word *water*; and *drank* is a transito-partitive verb, because it "affects only a part of" the word *water*. It must be so, for the author says it "has been tested," and we have no desire to question his word. Again, p. 127, "If two or more *objects* possess a thing conjointly, the sign ('s, s' or ') is suffixed to *the latter only*;" which occurs, we presume, on the first of April. The

reader's attention is especially called to *s'* as being a new sign of the possessive, not mentioned in "the grammars in use." This is one of the developments of the aforementioned recitation-room, "thoroughly tested" of course.

Mr. V.'s "Rules of Syntax" are models of the kind. They are generally clear and well-expressed, and are all professedly "rules without exceptions." As a sample of clearness and exactness of expression, take Rule III. "*The pronoun must be in the same person, number, and gender as the object which it represents.*" Mr. V., like the framers of most grammars in use, inadvertently makes person, number, and gender "properties of *nouns* and *pronouns*." But this, of course, is not his meaning. If the word *he* stands for Mr. Jones, it is in the 3d pers., sing., and of the masc. gender, because the man Jones is a *tertium quid*, hence of the 3d person; an "odd-fellow," hence in the singular; and of the genus *homo*, hence of the masculine gender. Rule IV. illustrates, as well as any, the fact that Mr. V.'s Rules are "without exceptions." "A noun or pronoun predicated of a noun or pronoun, must be in the same gender, number, and case;" as, "Mr. Jones is a *brick*;" "His *speeches* are an *honor* to the country;" "*Eyes* was *I* to the blind." That is, if we understand the rule, the word *brick* is masculine because the noun *Jones* is; *honor* is plural because *speeches* is; and *eyes* is singular because *I* is. We say "if we understand the rule," for how a "noun" or a "pronoun" can be "predicated" of a noun or a pronoun, we don't quite see yet. Generally, the things predicated are certain acts or states, and they are predicated of objects. Possibly, by a figure the noun *brick* can be predicated of the noun *Jones*. But, we fear, not without considerable dust. At all events, most students would have to figure a long time to prove *brick* to be masculine, *honor* plural, or *eyes* singular, in the above examples.

But the book is so thickly set with gems of rare excellence, that we are really lost among them. We have not room even to allude to the hundredth part of them. But we must not close without calling our readers' attention to one more point; namely, certain choice examples of false syntax. We leave this for the last, on the principle that we take our dessert, the sweetest and choicest portion of our dinner, not before but after we have picked our turkey's bones. Among examples of false syntax, on pp. 121, 163, are these; "Mary is a poet;" "Julia is a teacher;" "She was considered a good teacher;" "Susan is a doctor;" "They elected her professor of mathematics." Does the reader wonder where the false syntax is? Why, you don't understand the new system, which our author "has developed and thoroughly tested." These examples should read, "Mary is a *poetess*;" "Julia is a *teacheress*;" "She is considered a good *teachress*;" "Susan is a *doctress*;" "They elected her *professorine* of mathematics." We fear our readers may think we are jesting. We are not. We were never more serious. In fact, our seriousness partakes of sadness; for we realize with the poet, that

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air."

And we are apprehensive that these flowers of Mr. Vicroy's are born, if not "to blush," at least to waste their fragrance outside of most "recita-

tion-rooms." Mr. V. says, p. 121, "*poet* must be changed to *poetless*, to agree with Mary, according to Rule IV. A noun or pronoun, predicated of another noun or pronoun must be in the same number, gender and case."* But who will believe this? If our readers can turn to pp. 34, 35, they will find, however, that this should be as Mr. V. says. For, besides the foregoing feminine forms, they would there find such words as *oralress* and *oratrix*, *negress*, *foundress*, *tutress*, etc., etc. Mr. V. says, "I have inserted these words, *teacheress* or *teachress*, etc., as the terms which should, and will be used before many years." Sad as the thought is, we don't expect to live long enough to see them adopted. It is a consolation, however, to know that they "have been tested."

The first lack of teachers is a comprehension of their work. Normal schools have done much to increase their professional skill, but very little to impress upon them the scope and philosophy of teaching. Teachers' conventions and institutes fail to furnish the broader views which teachers lack; for the discussions to be heard at such meetings seldom transcend the limits of school-houses, text-books, and school committees. The available literature of education—the writings of our Rاندalls and Wickershams and Harts—is quite as narrow and unprofitable. The writings of masters whose opinions are worth heeding, are for the most part too expensive for the slender purses of teachers. Teachers have therefore been compelled to pursue their work unaided, or but little aided, by the labors of their predecessors: to learn in the costly school of experience, by practising on what they are called to develop and train.

An enterprise¹ which promises to improve this condition of things, by affording teachers, in moderate compass and at moderate cost, the materials for studying their duties in the reflections of great and practised minds upon the subject of education, will, we are sure, not only meet with the favor it deserves at the hands of teachers and friends of education, but prove a most efficient aid in raising the character and grade of our public schools. No name is more worthy to inaugurate such an enterprise than that of JOHN LOCKE, forever memorable in the domain of education, as well as of religion, philosophy, and politics.

Interwoven with the life of George Stephenson is the development of the Railway Locomotive. The man and the machine are inseparably connected in history. Although the Steam Locomotive is not the offspring of Stephenson's brain, yet he so identified himself with its first efforts, defended it so effectually against its detractors, insured by his skill its first successes, and, by eliminating its earlier faults, brought it to its perfect state, that, just as we feel we are indebted to James Watt for the perfect stationary Engine, so we place to the credit of the elder Stephenson the practicable Locomotive. It is interesting to note, how, emerging from the obscurity of a small English mining village, the growing fame of the hero is measured by the success of the machine he perfected.

* The punctuation of this is Mr. Vickroy's.

¹ A Library of Education: a Series of Educational Works, embracing the writings of Ascham, Milton, Locke, Prof. De Morgan, George Long, Herbert Spencer, Horace Mann, Montaigne, Fenelon, Rousseau, Pestalozzi, Richter, etc., etc. New York: J. W. Schermerhorn & Co. 32mo. Paper. 15 cents a volume. By mail, 20 cents.

Step by step from the position of "plugman," at twelve shilling a week, he rises through the grades of Engineman, Enginewright, and Railway Engineer to the head of the profession. His fame is achieved abroad while he is yet plain "Geordie" among his comrades, so that a letter directed to "George Stephenson, Esquire, Engineer," goes astray in his own village. From the lowest to the highest position he occupies—from that of shoe-mender and plugman at Killingworth, to that of guest and consulting engineer of the king of Belgium, his advancement is never by chance—every position is earned. The opposition his railway plans met with in Parliament, and his sturdy defence, form an interesting episode in the history of applied science. His triumph over the difficulties of Chat Moss, in spite of the predictions of professional engineers—his victory over the more subtle difficulty of human opposition, prompted by jealousy and backed by the press, are all skilfully set forth by Mr. Smiles,¹ and teach a lesson that will never lose its value till inventions cease. The career of Robert Stephenson is that of a man who had unusual advantages, and who availed himself of all that fell in his way. Without the philosophical mind of the father, he still possessed all those qualities which make a great engineer. The chief monuments to his memory are of his own building, and will long stand the pride of his country. The author has not always observed the chronological order, in detailing the chief events of the history, and yet we feel that the tale would suffer some loss if told in any other way. Mr. Smiles differs from most of his contemporaries in refraining from over-exalting his hero; and the reader will hardly fail to be convinced that George Stephenson was a great man, great even beyond the estimate of his biographer.

Messrs. Scribner & Co. have done a good thing in republishing Dalgleish's *Manual of Analysis*.² It is an unpretending little book, but a very satisfactory one. It combines, in a wonderful manner, brevity with fulness of treatment. Its definitions are, for the most part, short, clear, and correct. Its exercises are not only progressive, but copious and well selected. Some of the author's analyses, to us, are new and pleasing. We commend the volume to those who are in want of a concise and thorough work on grammatical analysis.

Harper & Brothers: CYCLOPEDIA OF BIBLICAL, THEOLOGICAL, AND ECCLESIASTICAL LITERATURE. Vol. II., C. D. By MCCLINTOCK & STRONG.—THE CIVIL WAR IN AMERICA. Vol. II. By JOHN W. DRAPER.—THE SPANISH CONQUEST IN AMERICA. Vol. IV. By ARTHUR HELPS.—SCHOOL LYRICS, compiled by S. M. CAPRON.—THE OPIUM HABIT.

C. Scribner & Co.: THE HUMAN INTELLECT. By NOAH PORTER.—KATHRINA, HER LIFE AND MINE (illustrated). By J. G. HOLLAND.—MORAL USES OF DARK THINGS. By HORACE BUSHNELL.—ADVENTURES IN SOUTH AND CENTRAL AMERICA. By DON RAMON PAEZ.—CONSTANCE AYLMER: a story of the 17th Century. By H. F. P.

Leypoldt & Holt: LANDMARKS OF ANCIENT HISTORY. By Miss YONGE.—LANDMARKS OF MEDIEVAL HISTORY. Do.—LANDMARKS OF MODERN HISTORY. Do.—OTTO'S BEGINNING GERMAN. By L. PYLODET.—GUIDE TO GERMAN CONVERSATION. Do.—BEGINNER'S FRENCH READER. Do.

J. C. Garrigue & Co., Phila.: THE TEACHER'S GUIDE TO PALESTINE.

M. W. Dodd: THE ORPHAN'S TRIUMPHS. By H. P. K.—PAUL AND MARGARET, the same.—GENEVAS SHIELD: a story of the Swiss Reformation. By REV. WM. M. BLACKBURN.

A. S. Barnes & Co.: COMPLETE GERMAN GRAMMAR. By JAMES H. WORMAN, A. M.

¹ The Life of George Stephenson and of his son Robert Stephenson; comprising also, a history of the invention and introduction of the Railway Locomotive. By SAMUEL SMILES. With portraits and numerous illustrations. New York: Harper & Brothers.

² Grammatical Analysis, with Progressive Exercises. By W. S. DALGLEISH, M. A. New York: C. Scribner & Co., 1868, pp. 66.

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A CASE, A DECISION, AND SOME REFLECTIONS.

IN the *Iowa School Journal* for last June, p. 280, will be found a full account of the case described in the following extract :

“Mr. Austin Hays had a rule that when a scholar missed two words or more, he should be subjected to some punishment. The punishment differed in different cases, according to the disposition of the pupil. About the 16th of December last, a little boy of eleven, Joseph Elliott by name, missed two words. In this case the teacher made him toe a crack in the floor, and, reaching forward, touch the handle of the broom which lay on the desk before him. The broom was placed at such a distance that he could touch it with some effort. A book was then placed on the broom to keep it steady. The teacher then proceeded with his work. As soon as his back was turned, the boy ceased touching the broom, and stood upright. The teacher put him in position once or twice, but the boy acted as before. The teacher then sent for a rod. The rod brought in was a crab-apple limb of rather immoderate size. The teacher took it and told the boy that he would help him. He whipped him and left him in position. Soon the boy stood as before, and again the teacher applied the rod, and said if he had to whip him again, he would take off his coat. The boy did as before, and the teacher, with the assistance of one of the larger scholars, did take off his coat; but he did not whip him. The boy then remained in position till the teacher told him to take his seat. Returning home, the boy reported what had occurred, whereupon the boy's father, Moses Elliott, had the teacher arraigned on a charge of assault and battery.”

The justice of the peace who first heard the case, found the teacher guilty, and fined him \$1.00 and costs. On appeal to the District Court,

[Entered according to Act of Congress, in the year 1868, by J. W. Schermerhorn & Co., in the Clerk's Office of the District Court of the United States for the Southern District of New York.]

N. B. The press are at liberty to copy, provided credit is given to *The American Educational Monthly*.

after a favorable charge from Judge Sampson, the jury acquitted Mr. Hays ; and it would appear, from the charge, that they were persuaded, 1st, that the boy had failed in his lesson wilfully, from neglect or idleness ; and, 2d, that considering "the nature of the offence, the age, size, and apparent endurance of the pupil," the punishment was neither "excessive" nor "inhuman," but was both "reasonable and necessary," and permitted by law.

There could, it appears to me, be few better made-up cases for the opponents of corporal punishment than this, which was not made up, and which was even decided against them. The arbitrary character of the rule violated ; the inquisitorial penalty—not to be called punishment but torture ; the "crab-apple limb of rather immoderate size ;" the moderate-sized "boy of eleven ;" all these features of Mr. Austin Hays's discipline challenge an indictment of brute force in the school-room. On this phase of the question, however, it is not my present purpose to dwell, further than to say that if it could have been proved that the boy's father was in the habit of correcting him with crab-apple and other limbs, it would not have acquitted the teacher. It would not have convicted the father of malice, since there are many rights properly reserved to the family : such as religious instruction. But it would have served a good end in showing that the home and the school alike need reforming, and under what disadvantages the experiment of school-keeping without the rod labors and must for a long time labor. While the practice of moral suasion, however, reacts upon and educates the home, the discipline by violence not only confirms some parents in ways of harshness, but obstructs others in their attempts to govern by love.

The question of humanity and expediency is presented, and fully and fairly discussed, in the *Massachusetts Teacher* for July, in recording the State action of Massachusetts in regard to punishment in the schools ; the most valuable portion being the testimony given by the Rev. S. J. May, of Syracuse, as to the results of abolishing corporal punishment in that city. But however much the worst and the ordinary cases in which the rod is used excite our feelings, and induce serious reflection, there will come a time, I am sure, when they will appeal rather to the sense of humor of those who consider them after they have become obsolete. Posterity will call them not "cruel" nor "barbarous"—being removed from all immediate sympathy with the victims—but "absurd" and "preposterous." The age in which they occurred, it will be said, had as imperfect notions of education as the Church, in the thirteenth century, had of religion. Ignorance, like heresy, must be extirpated by force ; the argument for the rack was the argument for the rattan. The Pope and the schoolmaster alike looked only at results—a certain formula to be repeated, a certain spelling lesson to be learned ; innocent if the task was

performed, guilty if "two words" were missed. Conscience, conviction, thinking and reasoning out the creed insisted on, the voluntary inclination of the soul toward truth—all went for nothing ; obedience and conformity were alone required. So the free exercise of the intellect, the getting of knowledge for the sake of knowledge, the learning, not by rote and tradition, but by original discovery and understanding—were no concern of the teacher. To pass the examination of the *Consistorium* or the Committee was the indispensable requirement ; and whoever, for want of light, or for want of willingness (which might only have been want of light also), failed of this, was to be helped through by *question ordinaire* or *question extraordinaire*. And the limit between ordinary and extraordinary punishments in either case was a purely arbitrary one.

How the serious earnest of one age will seem to another and succeeding age a sort of grim humor, appears from the way in which we regard the obsolete English law that permitted a man to beat his wife with a stick not stouter than his thumb. Judicious chastisement, to those early legislators, seemed a fit and necessary aid to conjugal affection and domestic tranquillity. Our lawgivers have made it the surest ground of divorce, the sufficient proof of incompatibility. The modern notion of love excludes that of violence as contradictory, and the tendency is to exclude also that of obedience. More and more generally, in this country, does the clergyman omit from the marriage ceremony the wife's promise to obey, and in other respects reduce the engagement to a perfectly reciprocal one. In the last resort, of course, obedience among reasoning beings of mature years and understanding, is secured only by the exercise of force, and public sentiment has decided that servility not merely dishonors love but kills it. But this, unhappily, is much in advance of private practice, and in most of the compromises of which married life consists, woman goes to the wall merely because she is a woman.

The reason why torturing the spine and shoulders of a growing boy, and then trouncing him with a crab-apple limb, can seem to anybody only moderate correction, and not a painful or even a grotesque spectacle, is because, on the one hand, there is absolutely no code to which the teacher is amenable for his severity, and, on the other, force has not yet been discarded as an inappropriate means of promoting education. It is true, teachers are sometimes punished by the courts for abuse of their scholars ; but it is notorious that conviction depends in great measure upon local circumstances, and on the disposition of the judge. Should the latter be greatly attached to the traditions of his early training, the accused need stand in little dread of him. The pedagogue of the "good old times" has departed, but his birch-doctrine lingers in many minds which would be horrified at his actual resurrection. I should hope that no school at the present day would tolerate such a monster as Horace

Mann describes in one of his reports,¹ when speaking of the English schools. "I was standing one day," he says, "in conversation with an assistant teacher, in a school consisting of many hundred children, when, observing that he held in his hand a lash or cord of india-rubber, knotted toward the end, I asked him its use. Instead of answering my question in words, he turned round to a little girl sitting near by, perfectly quiet, with her arms, which were bare, folded before her and lying upon her desk, and struck such a blow upon one of them as raised a great red wale, or stripe, almost from elbow to wrist." I should hope, I repeat, that such wanton cruelty could find no shelter in any American community, though if I were a lawyer, I would as lief undertake to defend the case just cited as Mr. Austin Hays's. No inconsiderable part of the flogging practised on Southern plantations was due to the theory that to keep alive a wholesome terror, trivial offences must be magnified, or offences invented, or the lash applied without so much as a pretext that it was deserved.

The fiction that the teacher stands *in loco parentis* answered well enough for the time when a parent's duties were deemed fewer and simpler far than they are now, and there was a general agreement in regard to them. Presumption then was always in favor of the teacher and against the pupil—even in his own home—who had fallen under the teacher's displeasure. Imagine (what is a real case) the discipline in a family of perhaps more than usual affectionateness, where the grown-up girls could not wear short-sleeved or low-necked gowns because of the bruises and discolorations caused by repeated floggings; in which the dropping of a fork at table was punished as a falsehood was punished; in which, on principle determined by genuine love, the whip was the only mode of reproof and admonition. What an almost unlimited support the barbarism of the school-room would have from such parents, even when brought to their door in the person of their own offspring! And what was true of one family was probably true of the neighborhood. We have so far changed all that, that the presumption is the other way, because children are trained less by coarse and brutal instrumentalities, and more by patience and reason—more as equals than as subjects. If not a majority, certainly a large and increasing minority of parents have put away the rule of violence from the household; and these certainly have a right to say to their self-styled representatives: Observe our discipline with our children. Yet nothing is clearer than that distinctions in school government are impracticable and undesirable. Shall it be, then, the rod for all or the rod for none? Let this question be answered by another: Will any parent find fault with

¹ For 1843. Page 382 of Mrs. Mann's "Life and Works." Boston: Horace B. Fuller. 1868.

a teacher who governs without corporal punishment? If not, then you have only to secure a teacher who can so govern, and the problem is solved, for all parties will be satisfied.

Such, and such teachers only, will be sought after and accepted when once it is generally perceived that the proper object of instruction, in schools of all grades, is not to carry classes through a prescribed course, but something far higher. Given the *quantum* of geography, arithmetic, spelling, and grammar fixed—Heaven knows by what standards—for a district school, and any methodical teacher can divide the number of pages of the text-books by the number of days in the term, and with energy drive his pupils through the quotient, their daily stint. He may drive with the rod or he may drive without it, the District in either case looks complacently at the result and makes no odious comparisons. The thing which was to be done has been done; the school has maintained its reputation, the school committee's estimate of the powers of the youthful brain under pressure has been triumphantly vindicated; the medals, diplomas, and prizes have been duly awarded, and everything is for the best in the best of worlds. The result, in other words, being satisfactory, why quarrel with the means? Why inquire about the means?—Let us see.

Whatever laws exist on school punishments, and however unbroken the line of decisions in favor of the teacher's right to punish, within limits, the laws may be abolished and the decisions superseded. The example of Syracuse shows this, and also how hopeful we may be of reform in this and other directions, even long before the body of the people are converted to it. Less than two years had elapsed after the July riots, when caste was suppressed in New York conveyances the day following a judicial decision. The prejudices of citizens remained the same, only the custom was changed; yet the reform was real for the victims of the previous abuse. Bearing this experience in mind, we ought not to despair of getting wholly rid of corporal punishment whenever, in any place, the more enlightened few conspire to that end. And, perhaps, just because it is as easy to overthrow the practice as to regulate and restrain it, we have never undertaken to define the cases in which a teacher may and may not flog his pupils. Yet these fall naturally into two well-defined divisions, in one of which the use of the rod may be an open question, in the other must be condemned as either inhuman or absurd. That is to say: suffer, if you will, that a child be beaten for offences against order, good manners, good morals, positive commands, etc., but save him from like treatment for inattention, imperfect preparation of his studies, faulty recitation, failures to comprehend, and all delinquencies which relate, not to his conduct under government, but to his progress under instruction. If any boy in Mr. Hays's charge is insolent, insubordinate, a mischief-maker, a bully, and Mr. Hays deems it expedient to batter him with a crab-apple limb, be it so;

but let it be forbidden to him or any other teacher to "have a rule that when a scholar misses two words or more" a finger shall be lifted in violence against him.

The emancipation which we advocate is not for the pupil alone. The master will gain even more conspicuously. Grown old in his profession, his present characteristics are rigidity and narrowness. Authority, and the constant exercise of it, have done for his temper what they do for that of every monarch, whether on a throne or on a plantation. The discipline of self-constraint—the highest permitted us—he will have lost in great measure, if not altogether. In accomplishing betimes the everlasting routine, his mind has not had the leisure, and has forgotten the ambition, to enlarge itself with fresh acquisitions, so as to keep the work of the school-room in close and inspiring communication with the intellectual progress of the age. Enthusiasm has long ceased to be, what it should be, the badge of his profession ; and not the badge only, the tradition—the *thing handed down* from generation to generation—a thirst for knowledge, along with ravishing glimpses of its boundless domains. Instead of to some such prospect,—its hazy horizon melting into an ever-tempting, ever comforting blue ; broad meadows, sun-streaked or dappled with hurrying cloud-shadows ; streams running out to a far sea, gleaming between opposing mountain-chains, and, at their feet, spring leaves and blossoms,—he has led his pupils through fenced ways without terminus or outlet, dismissed them at the barrier devoid of longings except for a liberty which they cannot comprehend or fail to abuse, and mistaking the grass in the ruts they have traversed for the whole vegetation of the world into which they are cast. He has been a perhaps ignorant accomplice in a scheme of education which measures intellect as Xerxes counted his army, by solid contents, and which says to the audience, at school exhibitions : "In the graduating class each boy's head has been fitted, by a little judicious pressure, to contain so many cubic yards of arithmetic (labelled Greenleaf), so many of geography (labelled Cornell), so many of spelling (labelled Webster), etc., etc., all as prescribed at the beginning of the term. With this outfit, ladies and gentlemen, the Committee professes itself perfectly satisfied, and cannot but congratulate parents on so faithful and diligent an instructor, etc., etc." Finally, the subject of such a eulogium has been the victim of a system which, by demanding severity of discipline and exactness of performance, makes it almost impossible for the teacher to be, what the true teacher will ever be, an ardent student, or disposed to recognize and adopt improved methods of instruction, or capable of advising parents in the most important and perplexing matter of their lives—to what pursuit they shall best turn their children, and at what point their schooling (not their education) should cease.

STUDYING LATIN.

I.

BOYS were once put to the study of Latin for the simple purpose of learning the language. In old times, Latin was of some worth for its own sake. It was the means of intercourse, not between the learned only, but also between all who belonged to the better classes. It was the language of diplomacy and of the Church. Its literature contained almost all the knowledge that was thought worth knowing. And then, as now, acquaintance with Latin gave insight into the structure and force of English words. There were, therefore, good reasons for studying Latin for its own sake.

Now, however, the advocates of Latin urge a different motive for the study. The motives that once induced to it have in great part ceased to exist. The language is no longer a means of communication ; its literature is not so valuable, relatively, as it was in the Middle Ages, and even those who know Latin, gain their acquaintance with its literature for the most part through translations. The language is still, it is true, very useful as a teacher of English ; but I do not know that it has any other tangible value in these times.

The ancient reasons failing, others are brought forward. Latin ought to be studied for the sake of the training to be gotten thereby. We want formation rather than information, is the cry ; we want education, not cram. Now it certainly looks suspicious when new reasons have to be contrived for old customs ; yet it can hardly be denied that the study of Latin is a good training-process. It is admitted that it cultivates the memory and refines the taste ; gives keenness to the reasoning powers and accuracy to the judgment ; and to faithful students of fair ability, imparts a good training in rhetoric and the art of method.

These, then, are the reasons generally advanced for the study. I think that few will not admit Latin to be worth something when once learned ; and fewer still will fail to see its value for training purposes ; there are many, however, who in fact hold that these two objects are opposed to each other. Thus the old way of learning Latin—that is, by the systematic study of the grammar—although generally allowed to be an indirect and unsatisfactory way for learning the language, is notwithstanding supposed to be the most effective as a training process.

Yet these two objects are not antagonistic : on the contrary, the method that is best as regards the speed of acquisition of the language, is also the best for training the mind.

Let us consider the methods of study.

Speaking loosely, one may be said to know Latin when he has learned three things :—

I. The Inflections.

II. The Constructions.

III. The Words.

If one knows the various forms taken by nouns, adjectives, pronouns, verbs, and adverbs, and the uses of those forms ; if he understands the laws which must rule in forming sentences ; and if, in addition, he knows the meanings of all the common words of the language : he may be said to know the language ; although, of course, he may yet be far from using it with elegance.

These then are the elements of the knowledge of Latin. What is the common method of acquiring these elements ? They are studied separately, and little or no use is made of the knowledge gained until the scholar is far advanced in his course. First the inflections are learned bodily ; then the constructions are learned in the same way ; whilst the words are left to be acquired by daily thumbing the leaves of the dictionary.

The result is, that most boys who study Latin in this way learn but little, and become thoroughly disgusted with the subject ; some, however, learn to do Latin into English with considerable facility, by the aid of the dictionary. Without the dictionary they cannot translate ; they do not know the words.

The other way to learn Latin is, to learn the inflections, the constructions, the words, simultaneously ; and to learn nothing which is not to be put to immediate and constant use.

The result of this method of study is that boys can learn to read, write, and speak Latin, correctly and fluently, at no greater cost in labor than the other method involves for its poor results. When they take up Cæsar, instead of reading with painful effort a dozen lines, or at most half a page, they will be able to translate five or six pages at a lesson both well and easily ; and at that stage of their progress they will have learned the commoner inflections, constructions, and words of the language ; and their knowledge having been fastened by actual use, will be such that they cannot forget it ; it will be to them “a possession forever.”



ANALOGY OF EDUCATION TO PLANT-GROWTH.

THE mind is not simply a void to be filled, or wareroom to be stored ; pouring in knowledge, or storing away facts, however well done, is not enough.

The mind is not a canvas or tablet for surface-sketching ; memorizing is not enough.

The mind is not well-grown muscle needing only exercise to give it hardness, and training to give it skill : discipline is not enough.

Least of all is the mind, especially the child-mind, whatever be its nature else, a thing of unmistaking instincts, needing no control or guidance, but only impulse to urge it forward : pleasing stimulant will not suffice.

How then shall we view the mind ? Material forms and notions seldom illustrate spiritual ideas well ; yet with due care they may become quite helpful.

In the corn-grain is a mysterious life-germ. Of its real nature we know but little. Drop it in the soil, where are moisture and warmth, and in answer to its inner power it will swell, burst, send down a rootlet for the meat and drink God has placed there for it, and shoot up a leaflet for air and light. Stir the earth about it and it will throw out root after root for a firmer hold, and mouth after mouth to gather to itself the richer stores. Let the winds shake it, and it will add fibre to fibre to resist them. Let the sun dart his beams, and the evening drop her dew upon it, and it will unfold blade after blade to gather them to its bosom, and thus build up and enrich its own life, and finally put out its nodding ensign, bidding man to joy in its beauty, and come and take of its plenty.

Divine wisdom drops a nut in the forest. It, too, under the stimulus of heat and wet, and obedient to the wondrous life-power in it, sends down its root with mouths for food, sends up its branch with lungs for air, adds limb to limb and leaf to leaf to catch the sunlight and rain-drop, adds growth to growth and root to root to stay the tempest, until the little thing you might fling with your finger swells to the mighty monarch of the forest, lifts its head beneath the weight of centuries, and challenges the king of storms to battle.

Now here are many things to be noted. Let us glance at a few of them.

1. There is in the seed an inherent life-power, a kind of growth-force ; in answer to which, expansion, development, and growth go successively and successfully on.

Just so in the mind. There is in it an inherent life-element, a sort of growth-power, which is the basis of all its activity and development. With this, mainly, education has to deal.

2. In the seed this growth-power is at first latent ; it may become active early, or lie dormant years, and even ages, and yet keep its vitality, only waiting its proper conditions to spring to activity and life.

So in the uneducated mind, whether of the child or full-grown man, there is a nucleus of latent power. It may be called into action early

or late, developed to a might of which we may yet have but a faint conception, or left in its embryonic state while years shall harden the bands that bind and lock it in their close embrace. Yet it is still there—ever there—hidden it may be, and, like the wheat-corn in the mummy's hand, long buried from sight, yet still living on in its prison-house of neglect, and only waiting the magic touch of Education's wand to wake it to energy and a higher life.

3. This growth-power of the seed owes its very first movement, and much that follows, to outside influence, moisture, warmth, etc., without which it must lie dormant or stop short of its end, with which it must become and remain active.

So of the mind. Without contact with the outside world through sight, sound, touch, etc., there cannot start its first spring of life, nor can its growing powers long keep active; with this contact its hidden forces begin to move and ply their busy functions. Education is to promote this contact, and direct this movement.

4. Plant-growth has its food and organs of supply. Its food, found in the soil and air around, is taken up by its feeders and distributed to uses as the inner plant-life demands. It is in no case crowded into the plant. True, the organs of supply may be quickened to a higher action, and an undue measure of food may be taken in, but not without derangement to other functions, and hence a stoppage rather than an increase of healthy growth.

So mind has its food in the world around and its feeders in the organs of sense. These latter—eye, ear, touch, taste, and smell—in their healthy action, gather up and bear in such and so much knowledge as may be needed for the manifold calls of each stage of the mind's growth. Their undue action must derange and embarrass the whole. Education is to take note of and conform to this law of supply and demand in mind-growth.

5. This life-force of the seed, by which its food is gathered, assimilated, and applied, and thus its growth carried on, is called to many a changing duty, and to each in its own time and season. The swelling germ, bursting shell, rising sprout, unfolding leaf, hardening fibre, encircling bark, gathering bud, opening blossom, growing and ripening fruit, are only results of countless unseen efforts and movements, none of which can be greatly hindered or hurried out of its usual rate or order without hurt, if not ruin to the whole.

So, but much more, with mind. Its growth-power is called to a thousand offices, changeful and mysterious as are the countless forms and degrees of human thought and feeling. These all have their times and seasons: break in upon them largely, and confusion if not havoc must soon follow.

But further, in mind as in plant-growth, all these outside growth agencies as well as the answering inside growth energy, have manifold modifications of nature, degree, time, and circumstance, which make up the whole development and final character of the man. All these it is the province of education to understand and use.

6. Plant-life has lower and higher forms or types. In ratio as the form is lower will the plant withstand rough treatment, mutilation, and even partial destruction. Certain plant forms may be cut or broken to many pieces, and yet each part hold to its life and growth to its full development. As the form of life is higher this is less and less the case, each higher form allowing less tampering, and yet needing more care. Soul-life, the highest form of created being, least of all will bear without hurt the influence of destructive agencies or the harm of unwise tampering.

Further, in ratio as forms of life are higher, they cannot be left to chance influences and yet reach their full development, but are the more dependent on intelligent foresight and care.

Mind or soul, being to us the highest form of growing life, least of all can be left to chance, and most of all needs intelligent guidance and watch-care.

7. Plant-growth has its ideal form : all its powers look to a divinely appointed plant-type. Its every effort is toward this, and its every outside agency should aid it thither. But it meets many a hindering cause—the worm, the fly, the drought, excessive wet, mildew, blight, frost, heat, hail, and storm.

So, mind-growth has an ideal end : all its lively forces look to a divine and perfect man-type. Its every outward agency and every responsive inward effort should point thither. This perfect man-type is no less than an image of the very God. But there are a thousand hindering causes that, in this case, have well-nigh gained the mastery. Education must be ready to lend a hand to every favoring influence, check and beat back every opposing agency, and thus build up the Perfect Man. Because it does not do this, or does it so badly, humanity is so sadly far from its archetype.

8. Once more, but now very differently. Plant-life, having its typical form finite, soon arrives at its end and passes away. Soul-life, having its typical form infinite, even God, admits an endless growth.

Again, in the healthy plant decay sets not in until growth is complete. This being true of the healthy soul, and its growth admitting of no completion, how bright becomes the vision of an endless and ever-advancing life !—a view which ten thousandfold heightens the hazard of faults and blunders, and enhances the glory of success IN EDUCATION.

VOWELS BEFORE R.

THE vowel-sounds in English, viewed with reference to their uniting in utterance with a succeeding *r* sound in the same syllable, may be classed as (1) those that do, and (2) those that do not, unite with it. The former class includes all the short vowel sounds (as in *marry*, *merry*, etc.), and three of the long ones; namely, *a* in *far*, *a* in *war*, and *e* in *her*.¹ The latter class includes the remaining long vowel-sounds and all the diphthongal sounds properly so called; as,

1. *a* alphabetic, as in *fate*.
2. *e* alphabetic, as in *me*.
3. *o* alphabetic, as in *no*.
4. *a* as in *ask*, *pass*, *branch*, as noted by Worcester.
5. *o* as in *move*=*oo* in *noon*=*ou* in *soup*=*u* in *truth*.
6. *ai* (= *a* alphabetic + *i* in *pin*) as in *aye*, meaning "always."
7. *ai* (= *a* in *far* + *i* in *pin*) as in *ay*, meaning "yes," and in *aye-aye*, the name of a sort of monkey.
8. *oi* (= *o* in *on* + *i* in *pin*) as in *voice*, *joy*, etc.
9. *i* long (= *a* in *era* + *i* in *pin*) as in *pine*, *my*, *eye*, etc.
10. *ow* (= *a* in *era* + *u* in *full*) as in *how*, *sound*, etc.

Three of these sounds (6th, 7th, and 8th) are never in English followed by *r* in the same syllable. They are, therefore, never found in such a position as to render it possible for them to unite with a succeeding *r* in utterance.

The sound of alphabetic *a*, comparatively speaking, is very rarely followed by *r* in the same syllable; and then, perhaps, in what some may consider questionable cases; as in *mayor*, *e'er*, *ne'er*, *layer*, *payer*, *gain-sayer*, and several other words in *-ayer*. *Mayor*, with *ay* sounded as in *may*, most authorities mark as a dissyllable. Sheridan and Knowles make it a monosyllable; and so do the poets generally. As to *e'er*, the earlier lexicographers are without it. Worcester and Porter² make it a monosyllable, but make it rhyme with *fare*. *Ne'er* is marked to rhyme with *layer* by Sheridan, Perry, Walker, Knowles, Webster, Smart, and Reid. Worcester and Porter make it rhyme with *fare*. The etymology of the word is certainly in favor of the former pronunciation. For as *e'en* is simply *even* with the *v* dropped out, so *ne'er* is *never* without the *v*. The first *e*, not being able to retain its short sound, passes naturally to its corresponding

¹ This last, some would call short. But whether long or short, it unites freely with the sound of *r*,—none more so.

² By "Porter" is meant the Unabridged Illustrated Webster, in distinction from Webster's own Dictionary.

Vowels Before R.

long one, the *a* in *knave*; just as the *a* in *can* passes into its corresponding long sound (the *a* in *grass*, *branch*, etc.) in the contracted form *can't*. The same may be said of *e'er*. The two ought, we think, to be pronounced to rhyme with *mayor*, *payer*, etc., not with *mare*, *pear*, etc. As to *layer*, *payer*, *player*, *sayer*, etc., though the authorities are pretty generally agreed in marking them as dissyllables, they are as truly monosyllables as *prayer* (supplication) and *mayor*; as in the following lines:

"Call forth | your sooth | *sayer*. As | I slept, | methought," etc.

Cymbeline, Act V., Sc. 5.

"Became | a brick | *layer* when | he came | to age."

2d *Hen. VI.*, Act IV., Sc. 2.

"To Ba | bel's brick | *layers*, sure | the tower | had stood."

Donne's Satires.

Compare

"My lord, | the *mayor* | of Lon | don comes | to greet | you."

Richard III., Act III.

"He is; | and see, | he brings | the *mayor* | along."—Do.

Now, though alphabetic *a* is, or may be considered as being, in the same syllable with *r* in the above and in similar cases, it does not, in utterance, unite with the *r*. If it did, we should have such a combination of sounds as is obtained in pronouncing the first two elementary sounds of the expression "*a r* | od." Thus *mayor* would be "*may run*" without the sound of *un*; *e'er* would be "*a rod*" without the sound of *od*,—*may r*—, *a r*—.

The remaining sounds of the foregoing table are followed more or less frequently by *r* in the same syllable, as *ear*, *oar*, *air*, *your*, *ire*, *our*. But no one of them coalesces with or impinges upon the sound of *r*. Of this any one may be convinced by taking each of these sounds and pronouncing it and the sound of *r* in succession, slowly at first, afterward gradually bringing them nearer and nearer together. Take *e* for example, and *r*. If the sounds of *only these letters* are given in close succession, one will obtain, not the sound of the word *ear*, but the first two elementary sounds of the word *era*, as though he were going to pronounce that word but stopped short on reaching the sound of *a*,—*er*. If this were the true pronunciation of *ear*, of course there would be a coalescence or union of the sound of *e* with that of *r*, as Worcester represents it to be. But it is evident that the sound of *e* here does not immediately precede and impinge upon that of *r*. A careful analysis of the elementary sounds of *oar*, *air*, *your*, etc., will show the same thing in regard to these words.

"But are not these vowel sounds lengthened or modified?" Not at all. A long sound may be shortened, or a short one lengthened; but that a long sound may be lengthened implies that it is not already a long sound.

One may prolong indefinitely the sound of a long, or even of a short, vowel by dwelling on it. But this is not what is understood by lengthening a vowel-sound; nor is it what is really done in these words. *E*, for example, is no longer in *here* than it is in *he*; nor is *i* in *ire* any longer than alphabetic *i*, or the pronoun *I*. There is no lengthening, then, of the vowel-sounds in these cases. Neither is there any modification of them. If there were, it is evident that the sound of *e* in *hear*, for example, would differ from that in *he*; the sound of *o* in *soar*, from that in *so*. But this is not the case. To test it, take the word *over*. Drop the *v*, and we have *o'er*. We have simply lost one elementary sound, that of *v*. The others remain unchanged and entire. That is to say, long *o* is still long *o*, unmodified and the same in *o'er* as in *over*. Again; take the expressions, "We're here," "Ye're here." The sound of the first *e* in *here* is precisely the same as that of *e* in *we* or *ye*, while that of the remaining letters (*re*) completing the word *here* corresponds to that of the contraction *'re* after *we* and *ye*. The same thing will appear on comparing the sounds of *real* and *rear*. The only noticeable difference is in the sound of the last letter. *You're* and *your*, and other examples, may be compared with like result, all showing that the sound of these vowel symbols (*e*, *o*, *a*, *i*, *ow*) is as truly intact and unchanged before *r* as that of the *r* or other consonants with which they may be connected. The truth is, between these vowel-sounds and the sound of *r* in the same syllable, another sound, that of unaccented *e* in *over*, intervenes and couples the two together. All that can be truly said is, not that these sounds are lengthened or modified, but that they are separated from the sound of *r* by the intervention of this short sound,—the orthoepical link that binds them together. This sound, some call a "glide;" others, "the guttural vibration of the *r*." But it is no part of the *r*. This letter has no "guttural" vibration. All the vibration it ever has, is a lingual one. The consequence is, the true pronunciation of *ear*, for example, is not represented by *ēr*, as Sheridan, Perry, Worcester, and others attempt to represent it; for it consists of more than two sounds. It is properly *e'er*, as that of *oar* is *o'er*, of *air* *a'er*,—three sounds. So *your* is pronounced *yoo'er*; *our*, *ow'er*;—four sounds instead of three.

Worcester evidently considered the sound of *a* in *fare* a different sound from that of *a* in *ask*, *grass*, etc. This is implied in his giving to the *a* in *ask* a mark indicating a different sound. But he also says of the *a* in *fare*, it "is the sound of long *a*, qualified by its being followed by *r*." He considers it not a distinct sound from that of alphabetic *a*, in the sense in which *a* in *far*, or *a* in *hall* is, but a sound which long *a* has when followed in the same syllable by *r*, and because it is followed by it, and hence not found in any other connection. But this sound is not, in any sense, the sound of alphabetic *a*. It is as distinct from it as that of *a* in

far, which is a still different sound. It is neither more nor less than what Worcester calls "intermediate *a*," as heard in what Smart would call "the New York pronunciation" of *ask*, or *grass*. This may be seen by carefully comparing *fare* and *fast*, *pare* and *past*, omitting, in each instance, the final sounds of *er* and *st*. Besides, the idea that alphabetic *a* is necessarily qualified or changed because of its being followed by an *r* in the same syllable is shown to be incorrect by our having such words as *mayor*, *layer*, etc., already referred to, in which the sound of long or alphabetic *a* is followed in the same syllable by that of *r* as truly as "intermediate *a*" is in *prayer*. In short, the idea that *a* has the sound that we give to it in *fare* because it is followed by *r*, is purely imaginary. It has the same sound in *ask*, *after*, *can't*, *class*, and a long list of other words. And what is more, while this sound of *a* freely unites in utterance with other consonants, it never immediately precedes that of *r*.

In syllables like *ire*, *fare*, *your*, etc., the short vowel-sound preceding that of *r* necessarily produces something of a dissyllabic effect, though our knowledge of them may forbid our considering them dissyllables. Compare *cere*, *seer*; *dire*, *dyer*; *flour*, *flower*; *hire*, *higher*; *gore*, *goer*; *hoar*, *hoer*; *ire*, *eyer*; *lyre*, *liar*; *lore*, *lower* [comp. of *low*]; *more*, *mower*; *roar*, *rower*; *sire*, *sigher*; *sure*, *shoer*; *your*, *ewer*; *fire*, *fier(y)*; *wire*, *wier(y)*; etc. The latter word in each of these pairs, except the last two, is generally marked by lexicographers as a dissyllable. Yet there is no perceptible difference in the ordinary pronunciation of the two words in each; none whatever in the elementary sounds heard. In pronouncing the last word of each set, we may make its dissyllabic character prominent without offence to the ear. In pronouncing the others we cannot. And yet even these are capable of being used, though inelegantly, as dissyllables; as, "O who can hold a *fire* in his hands?"—*Shak*. One can scarcely read this line without making *fire* a dissyllable. Substitute *tree*, or *house*, or *child*, or any other monosyllable not of the class under consideration, and we see the difference at once. Compare the following:

"She persevered in getting *nigher*
Every minute to the *fire*."

Among the older English poets, this use of words of this class was not infrequent; as in these lines of Chaucer's:

"For many a man so hard is of his herte,
He may | not wepe, | although | him so | *re smerte*.
Therefore | in stede | of weep | ing and | *prai-eres*,
Men mote | give sil | ver to | the poure | *frie-res*.
His tippet was ay farsed ful of knives
And pin | nes for | to giv | en *fa* | *gre wives*."

Indeed, Walker speaks of *flour* as having "the same sound as *flower*;"

and yet he notes the pronunciation of the two words differently, marking the former as a monosyllable, and the latter as a dissyllable. Johnson and Sheridan spell both words alike—"flower." The truth is, so far as the elementary *sounds* given in the pronunciation of the foregoing pairs of words are concerned, they are precisely the same; and their pronunciation ought to be represented by the same elements. In proof of this, take *you* and *ewe*. These, of course, are pronounced alike. Now add to each the sound of *er*, and they become respectively *your* and *ewer*. The same reasoning applies to all. In each example, the combination of sounds preceding that of the final *er* is the same, and in no way affected by the addition of this sound. *More* is simply a "double comparative" form (*moer*) of the obsolete *mo* or *moe* (corresponding to *lesser*), and etymologically is as truly dissyllabic as *lower*, or *fewer*, or *freer*, but irregularly spelt by having the *e* and *r* transposed, as the *e* and *s* are in *whose*, the present orthography for the old possessive-case form *whoes*, equivalent to what would now be *who's*, if it were written according to the modern form of writing the possessive of nouns. *Fiery* and *wiery* are universally marked as trisyllables, though they are very rarely used as such. Webster says, the latter is better written *wiry*; and this he gives as a word of two syllables, though he notes *wiery* as a trisyllable. Chaucer, Hakluyt, Bishop Hall, Beaumont and Fletcher, and other early writers, wrote *wier* and *wyer* for *wire*, and doubtless pronounced the word just as we do. Whatever difference there may be to the eye, as ordinarily pronounced there is none to the ear.

In the written language, the short *e* or *u* sound immediately preceding that of *r*, is generally represented. This is done in various ways.

1. By the letter *a*; as in *bear*, *beard*, *board*, *coarse*, *ear*, *gear*, *hoarse*, *hoary*, *oar*, *soared*, *toward*, etc.

2. By the letter *e*, preceding the *r*; as in *beer*, *bier*, *brigadier*, *cashier*, *fierce*, *e'er*, *ne'er*, *o'er*, *peer*, *prayer*, etc.

Such words as *bier*, *cashier*, *chevalier*, of French orthography, retain the French sound of the *i*, leaving *e* to represent the short vowel sound heard between the sounds of *i* and *r*, and should be so marked, as Perry marks them. Perry, however, errs in marking the *e* as silent.

3. By the letter *e*, following the *r* and in the same syllable with it; as in *bore*, *borne* (= *bo'ern*), *core*, *fires*, *entirely*, *Ireland*, *moreover*, *pure*, *there*, etc. "Flowre" and "flowres," etc., as Spenser and others formerly wrote them, fall into this list.

The *e* in words like these is not "silent," as is generally supposed. It merely exchanges places with the *r* in pronunciation, just as in *acre*,¹

¹ This shows that Webster's change from *centre* to *center*, if consistently carried out, would require us to change *here* to *heer*, *care* to *caer*, *fire* to *fier*, *ore* to *oer*, etc. The sound of *re* in these and similar words is precisely the same as in *centre*, *theatre*, *manœuvre*, etc.

lucre, *centre*, and other words of similar ending. In both cases its omission in utterance would produce the same effect—an imperfect pronunciation of the word. It may be remarked, in passing, that this is the most frequent mode of representing this short intermediate sound.

4. By the letter *i*; as in *air*, *bairn*, *fair-haired*, *their*, *weir*, *weird*, etc.

5. By the letter *o*; as in *boor* (the first *o* here having the sound of *oo* or of *o* in *move*), *boorish*, *door*, *floor*, *iron* (= *ire* + the sound of *n* [which gives the Anglo-Saxon spelling *iren*] = *iern*, as much a monosyllable to the ear as *borne*), *mayor*, *moor*, *poor*, etc.

6. By the letter *u*; as in *bourn*, *course*, *fourth*, *giaour* (= *jow'er*), *gourd*, *monsieur*, *pour*, etc.

There is also quite a long list of words in which this sound is unrepresented. These may be thrown into the following classes.

1. Words in which the *r* is preceded immediately in the same syllable by long *o* and followed by one or more consonants; as, *corps*, *force* (the *e* here merely serving to make the preceding *c* soft), *forcible*, *ford*, *forge*, *fort*, *forth*, *porch*, *shorn*, *worn*, etc.

2. Derivatives from primitives belonging to class (3) above, which, while retaining the *r* in the same syllable with the long vowel that precedes it, lose the final *e* of the primitive, according to the general rule that "words ending in *e* silent [or, rather, '*e* silent or transposed'] drop the *e* on receiving a termination that begins with a vowel;" as, *admirer*, *admir-ing*, *assurance*, *curable*, *deplorer*, *gory*,¹ *inquiring*, *purser*, *storage*, *wherever*, etc.

Irish, as well as its derivatives, cannot be included in this class. It is not derived from Ireland, but from the Anglo-Saxon *yrisc*, a derivative in A.-S. from *Yr* or *Ir*, the original name of the island, whence the modern *Eri* or *Erin*, the Eng. *Ireland*, the Greek *'Iépvη*, *'Iouepρία* = *'Ifepρία*, whence the Latin *Hibernia*. Like *English* (Lat. *Angles*), *Irish* is properly primitive in our language. There is great propriety, therefore, in the caution given by the author of "Five Hundred Mistakes Corrected" (p. 47),—"Beware of saying *Ierishman* for *Irishman*, or *Ierish* for *Irish*; a very common mistake."

3. Words in which the *r* is preceded in the same syllable by *ou* having

¹ One of our earliest recollections in regard to sound, is the feeling of a want of perfectness of rhyme between *gory* and *glory* in the following lines:

"Slowly and sadly we laid him down,
From the field of his fame fresh and *gory* (*gorc-y*);
We carved not a line, and we raised not a stone,
But we left him alone with his *glory* (*glo-ry*)."

We presume others have had the same feeling. We knew not, in our school-boy days, *why* the rhyme should seem imperfect. But, in the light of after investigations, the reason became apparent.

the sound of either *ow* or *oo*; as, devour (pronounced *de-vow'er*), devourer (pr. *de-vow'er-er*), flour, our, scour, soured, souring, etc.; amour (pr. *a-moo'er*), Bourbon, contour, tourmaline, your, etc.¹

4. A few words like *landwehr*, *louis-d'or*, *souvenir*, of foreign, mostly French, nativity and not fairly naturalized as yet in the English language.

5. The anomalous words *choir*, *scarce* and its derivatives, *parent*, and *apparent*.—*Choir* (= *kwi'er*; *oi* = *wi*) we conceive to be without the representative of this short sound, from having dropped the *u* of its original, *Fr. chœur*; and *scarce*, from having dropped one of the *a*'s of its original, *Dut. schaarsch*. As for *parent* and *apparent*, they do not analogically belong to this class, not being derived from any such roots as *pare* and *appare*. Nor are they universally regarded as belonging to this class. Indeed, most lexicographers mark both these words with the alphabetic sound of *a*, which, analogically, is the sound that should be given to *a* in these words.

In conclusion, these sounds (*a'er*, *e'er*, etc.) which, so far as the vowel part of it is concerned, may perhaps with propriety be called diphthongal or triphthongal, belong naturally to final syllables. If we except a few words in classes (1) and (3) last mentioned, they do not properly occur elsewhere in words that are primitive to the language, or words not legitimately, and properly speaking, derived from some other English word. To this remark we make no exception in favor of *Aaron*, *prairie*, or *weary* (Ang.-Sax. *werig*), in each of which the *r* belongs properly to the second syllable, not to the first. *Aery* is simply an irregular if not improper graph for *airy* (*air*). And as for *fiery* and *wiery*, they evidently grew out of, and point back to, the old forms *fier* and *wier*, just as *briery* points to the current form *brier* as its original. Hence we conclude that, when any one of these sounds is found elsewhere than in the last syllable, it should be in words derived from some other English word, in whose final syllable that sound is found, and from which it passes of right to the derivative, provided the vowel before the *r* remains long. But to insert, in a derivative, the sound of short *e* or *u*, when it is not heard in the primitive, or to insert it in a primitive word in which it does not belong,—as, for example, to say *ed-i-to'er-i-al-ly* for *ed-i-to'-ri-al-ly*, or *se'er-i-ous* for *se'-ri-ous*, is really no better than saying *camel-leopard* for *camelopard*, *drownded* for *drowned*, *sawr* for *saw*, *keow* for *cow*, or *tremendyous* for *tremendous*.

We close with giving the following lists of certain words which, from an ignorance or a non-observance of the foregoing principles, are frequently mispronounced.

1. Words in which a diphthongal sound should *not* be heard before the *r*.

¹ In these last, if the *o* alone could be considered as having the sound of *o* in *lose*, *move*, etc., the sound between that and the *r* might be regarded as represented by the *u*. But this, on etymological grounds, seems liable to objection.

Porous, puritan, security, Mary, Flora, query, serious, diphtheria, ulterior, rarity (this should rhyme with *charity*), precarious, memorial, grammarian, siderial, chorus, vicegerent, glory, glorious, story, weary, prairie, furious, spiral, etc. (Say *po-rous*, *pu-ritan*, etc. ; not *pore-rus*, *pure-tilan*, etc.)

2. Words in which a diphthongal or triphthongal vowel-sound should be heard before the *r*. Gory, aspirant, aspiring, inquiry, desirous, storage, adorer, adorable, during, explorer, inquirer, inquirable, desirable, purer, inquiringly, devourer, scouring, etc. (Say *gore-ry*, *inquire-ry*, etc. ; not *go-ry*, *inquir-ry*, etc.)



PRIMARY EDUCATION.

IN the education of children, no mistake is more common or more injurious than the attempt to hold their minds upon subjects beyond their comprehension. It is common, because many teachers have never learned that there is an order in which the powers of the mind are naturally developed ; or knowing this, have never studied the adaptation of particular subjects to different stages of development. It is injurious, because the mind of the child is dulled, and discouraged by repeated failure to do the impossible things required of it. To a mature mind, principles which appeal to the reason may be just as simple as facts which appeal to the senses ; but to a child who has not learned to reason, they are quite incomprehensible. In nothing is a more skilful use of sound judgment needed than in deciding just what kind of truths are appropriate to each stage of a pupil's education.

It will be found that each of the main departments of study—language, mathematics, and natural science will furnish material aid for each step in the mind's development.

For the earlier school-course, language gives its elements—the alphabet and reading. It may be doubted whether in any period of his life, the child receives a better or more rapid discipline than while learning to read. The influence of the mystic “twenty-six” is supreme. They call for no exercise of reason ; they ask no trial of the judgment : they are so many differently-shaped *facts*, by whose simple permutation other facts more mysterious still are made, and to acquire skill in the use of them, demands only the exercise of patient and careful observation—the very powers, whose cultivation is most needed.

But in his early course, the child can do much more than learn to read. He may at the same time gain clear notions of the elementary facts of mathematics : weights and measures, rightly employed, are proper objects for the cultivation of the senses.

The natural sciences, too, furnish abundant material for the primary course. There are beautiful shades of color to please the eye while it tries to define them ; there are musical sounds to delight the ear while it tries to distinguish their tones : while the most familiar objects are ever ready to open their treasures of mysterious but simple properties to the observation of the little child whose mind is guided by a skilful teacher.

For the higher courses—the training of the understanding and the reason—language furnishes grammar and analysis ; in mathematics, there is arithmetic to be followed by higher branches, wherein abstract reasoning and generalization are required ; in natural science are the elements of natural philosophy and chemistry, to be followed by advanced courses in which the truths of these sciences are subjected to rigid demonstration ; and besides these, are history and philosophy.

Now, since the same subjects are to be continued through all parts of the pupil's course, it must be, that, without sound judgment, the teacher will often make the fatal mistake of presenting truths in the earlier, which ought only to be used in the later periods.

But of what avail is the most correct theory of mental training, even when abundant material is added to it to carry it out, except the teacher knows how to apply it? The question, then, is this : What practical methods of instruction shall be used in these different grades, so as in the end to secure the most complete intellectual culture? This question places us within the sacred precincts of the school-room. It brings us face to face with the immortal minds there gathered, to the point where a mistake may be as fatal as the false thrust of a surgeon's lancet.

First, in regard to the *primary course*. Remembering that the great object is to educate the pupil to habits of quick and accurate observation, and that the means at our command are the *elements* of the various branches of study, the inference is, that these elements must be presented as *facts* which the pupil may *observe*. He is not to recite the arbitrary sayings of a teacher, nor yet to be left to his own resources to learn for himself. He is to be skilfully guided toward inferences of his own. His ideas of color are to be formed through the agency of his own eyes : his judgments of distances and weights are to be settled by experiments made by himself. Object-teaching is founded upon correct principles. Its abuses are not to be defended ; indeed, as often practised, it is little more than a pastime. If, however, the system be bent toward the acquisition of available knowledge in the various subjects of study which the pupil is afterward to pursue, its practice may be as correct as the principle upon which it is based. That it may be so, the teaching should consist of exercises upon the elementary facts and principles of mathematics and natural science ; and conversely, it may be said that the elementary ideas in these departments can be accurately gained only by such a system. For example : a teacher tells the

child that "3 feet make 1 yard;" the child recites: "3 feet make 1 yard," knowing no more of what a yard is than before, because he has no clear idea of the foot which measures it. Nor does it help the matter to tell him that a foot is 12 inches. But suppose you put an accurate foot measure into his hand. He sees it, his eye defines its length; his mind grasps the idea of it, and will retain it after the object is removed. Give him the yard-stick, and his former experience will help him quickly to gain a definite idea of its length, and then how slight the impulse to be given by the teacher to send him forward to the conclusion that "3 feet make a yard!" If it be said that a child when older will, with less trouble, learn these things from books, let us ask if in the mean time he will gain those clear conceptions of what these denominations are, which alone can make them a valuable acquisition? Where does he learn their accurate values? If at all, it must be by accidental jostling against events and things containing them. The same is true of the fundamental facts of science, colors, sounds, motions, etc. Space would fail me to enumerate the subjects which may be used, not simply to amuse, but to discipline, and that, too, with direct reference to future study. Moreover, just in proportion to the accuracy of the child's conceptions of these things, will be the man's appreciation of the almost divine beauty of nature about him, and his ability to engage intelligently in the study of the sciences which deal with it.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

I.

THE inquiry is frequently made for suggestions and materials wherewith to illustrate the leading facts of Chemistry.

The demand comes moreover from instructors, whose schools do not pursue this branch of science, but in which it is found desirable for obvious reasons to enliven the regular routine of duties by an occasional scientific lecture.

In preparing the following series of experiments, it has been the aim of the writer to adapt the instruction to the wants of those who have had little or no experience in scientific illustration, and who possess but few facilities for it.

It is assumed in this series of experiments, that the operator has at hand such materials, including simple apparatus, as is usually put up in sets for an ordinary common-school course of chemistry; and, moreover, that he

has at command such other chemical resources as may be obtained in any country village.

For convenience, the entire list of necessary articles is given below.

APPARATUS.

Alcohol Lamp.	Glass Tubing.
Funnel.	Rubber Tubing.
Mortar.	Evaporating Dish.
Test Tubes.	Retort Stand.
Flasks.	Filter Paper.
Retort.	Pneumatic Trough.

For some of the above, substitutes may be found at hand. Thus a tub, a pail, or a fish-globe may take the place of the Pneumatic trough. Pipe-stems may serve in place of glass tubes ; and sweet-oil flasks are excellent substitutes for the chemical flasks and retorts. For a mortar, strong paper folded over the substance may be used.

CHEMICALS.

Chlorate of Potash.	Sulphuric Acid.
Sulphate of Iron.	Nitric Acid.
Sulphate of Copper	Muriatic Acid.
Sulphate of Soda.	Ammonia.
Nitrate of Potash.	Potash.
Nitrate of Baryta.	Nut-galls.
Nitrate of Strontia.	Phosphorus.
Nitrate of Silver.	Iodine.
Carbonate of Ammonia.	Sulphur.
Chloride of Lime.	Alum.
Chloride of Ammonium.	Oxide of Manganese.
Chloride of Cobalt.	Potassium.
Chloride of Mercury.	Sodium.
Yellow Prussiate of Potash.	Bismuth.
Red Prussiate of Potash.	Antimony.
Iodide of Potassium.	Magnesium.
Cyanide of Potassium.	Copper.
Acetate of Lead.	Zinc.
Tartrate of Antimony.	Iron.
Bi-chromate of Potash.	Wax.
Arsenious Acid.	Fluor Spar.
Oxalic Acid.	Litmus Paper.

To make these experiments of service to those who enjoy more extended facilities, the simple series of experiments will be occasionally supplemented by more difficult ones, and distinguished by smaller type.

SECTION I.

In the study of Chemistry we are constantly led to observe the action of one force, not comprehended in the study of Natural Philosophy. It is the force which binds unlike atoms together to form compounds. We call it Chemical Affinity.

Chemical experiments exhibit the phenomena resulting from the varied operations of this force when the conditions under which it acts, or the atoms between which it is exerted, are changed.

The force which tends to bind the atoms or molecules (whether simple or compound) of the same body together, is called cohesion. The force which opposes it in all bodies, is Heat.

Those bodies in which cohesion largely overbalances Heat are said to be *solid*. When the two forces are nearly balanced the body is a *liquid*. If Heat be in excess, the substance is either a *vapor* or a *gas*.

The consideration of these two forces belongs to Natural Philosophy, but inasmuch as we are often compelled to change the *state* of a body to accomplish a chemical change, the study of some of the phenomena of these forces affords an appropriate starting point for Experimental Chemistry.

The various modes in which cohesion acts, lead undoubtedly to the properties we call Flexibility, Elasticity, Pliability, Brittleness, Hardness, etc. These may be exhibited in a piece of steel.

Exp. 1. Procure a piece of a main-spring of a watch. The nearest watchmaker will give it to you.

Show its *flexibility* by winding it about your finger. Let it recover its previous shape to show its *elasticity*.

Heat one end to the distance of an inch to a bright red-heat, and let it cool slowly. The portion heated red-hot will be no longer elastic, but when bent or twisted in any direction, remains so. It is now *pliable*.

Exp. 2. For the second experiment, the spring must be heated as before. First, however, provide a tumbler of water and place it near the lamp in which you are to heat your spring. If you have no Bunsen Gas-burner, you will require an alcohol lamp. Hold the end of the spring in the upper part of the flame until it is at a bright red-heat, and then dip it very suddenly in the water.

If the spring was hot enough and your hand quick enough in cooling it, you will find now that the end experimented upon possesses neither flexibility nor elasticity in any sensible degree. Any attempt to bend it will break it, thus exhibiting its *brittleness*.

Its *hardness* is shown by its property of scratching glass. To exhibit it, take hold of the broken portion very close to the end; bear it firmly against a piece of glass, and draw it slowly along. It will make a distinct scratch.

Exp. 3. The *divisibility* of matter and the extreme smallness of an atom may be illustrated by a solution containing iron. Fill, with clear water, a jar capable of holding two quarts.

Dissolve a piece of sulphate of iron about as large as a common white bean, and add the solution to the water in the jar.

Dissolve a piece of red prussiate of potash, about as large as a pea, in a tablespoonful of water.

Add this last solution to the contents of the jar. Stir the whole for a moment. Observe that the liquid is distinctly blue. The quantity of iron added is less than $\frac{1}{800}$ part of an ounce, and yet a single drop of this solution, if put upon white paper, exhibits the blue color, which is due only to the presence of iron. Much less than the fifty millionth part of an ounce of iron is contained in each drop.

Exp. 4. You may vary experiment (3) with good effect by making your own sulphate of iron. In any porcelain or stoneware cup put a single drop of sulphuric acid and two or three drops of water. To this add a common carpet tack. An effervescence will ensue, which may continue for a minute or two; after which, pour in more water, an ounce or more,—take out the tack, which will be partially dissolved, and add the solution to the jar of water as in *Exp. 3*.

The effect of these two experiments is enhanced if two equal jars of water are provided, and the iron solution is added to one only while the prussiate of potash is added to both jars. The water that contains no iron will not change its color.

Exp. 5. Prepare a jar of water as in No. 3. Add to it a solution of sulphate of copper, made by dissolving a crystal of blue vitriol about as large as a pea. Dissolve about the same quantity of yellow prussiate of potash in a small quantity of water, and add to the jar containing the copper solution. A reddish brown color is the immediate result.

SECTION 2.—*Solution and Precipitation.*

The solution of a solid in a liquid is the perfect union of the two bodies, producing a compound liquid, containing the solid as well as the original liquid.

We pronounce the solid dissolved when its particles are no longer visible.

The original liquid is called the solvent. Water is a familiar *solvent* for sugar; but, as every one knows, there is a limit to the amount of sugar that can be made to disappear in a given amount of water. When this limit is reached, the solution is said to be *saturated*.

Among the different solids with which we experiment, the extent to which they are severally soluble is very different. Thus water will dissolve

more than one-third of its own weight of common salt, but only one five-hundredth of its weight of sulphate of lime.

Solubility generally varies with the temperature of the solvent, being generally greater for the lighter temperatures. More sugar will dissolve in hot than in cold water.

Salt is an exception to the general rule, and is equally soluble in hot and cold water.

It is an interesting fact that a saturated solution of sugar will dissolve a little salt.

When a chemical change accompanies the process of dissolving, the result is a "*Chemical solution*." An illustration is afforded when iron is dissolved in sulphuric acid.

In *simple solutions*, like those just mentioned, the solid may be recovered in its original state by evaporating the liquid.

In chemical solutions, on the contrary, the solid obtained in like manner is a new compound body. In the sulphuric acid and iron solution, the solid left after evaporation is sulphate of iron.

Exp. 6. Heat a small quantity of water up to the boiling point (the experiment is best shown in a flask); add gradually as much sugar as the water will dissolve. It is now a saturated solution. Let it cool slowly, and the sugar will begin to appear at the bottom of the vessel. This shows that hot water will hold in solution more sugar than cold water.

Exp. 7. Procure an alcoholic solution of camphor (called "*Spirits of Camphor*") ; a teaspoonful is enough for the purpose. Observe that it is a clear solution. Empty it into a wine-glass full of clear water. The camphor appears at once as a white pulpy mass.

This gum, like many others, is soluble in alcohol but insoluble in water.

Exp. 8. An easy example of chemical solution is afforded by pouring upon a small scrap of zinc, some dilute sulphuric acid (about eight times as much water as acid). The experiment may be performed in a test tube. The bulk of the piece of zinc may be about one-tenth of the liquid.

After the effervescence has ceased, set it away for some hours. Crystals of sulphate of zinc (white vitriol) will appear.

When solutions of different substances are mixed, if they contain together the constituents of some insoluble compound, the latter will appear in fine particles throughout the liquid. This phenomenon is called *precipitation*, and the accumulated solid particles a *precipitate*. It is sometimes produced by effecting a change in the character of the solvent. Experiment No. 7 affords an illustration of this.

Precipitation and solution are both exhibited in the following experiments.

Exp. 9. Dissolve in half a wine-glass of water as much chloride of mercury (corrosive sublimate) as would equal half the bulk of a pea.

Dissolve also in about twice the above quantity of water some crystals of iodide of potassium, whose bulk together shall be about five or six times that of the chloride of mercury.

Add gradually the iodide solution to the other. A precipitate will be formed, at first yellowish, then changing with more or less rapidity to a bright vermilion. This new compound is the iodide of mercury. Continue to add the solution of iodide of potassium, and the red precipitate will be entirely dissolved. The iodide of mercury, which was formed by the union of the iodine from one solution with the mercury of the other, is insoluble in water; but, as this experiment proves, it is soluble in iodide of potassium. The solution, moreover, when complete, shows no trace of the bright color of the precipitate.

This experiment may be varied by using a small portion of the iodide of potassium and a larger quantity of chloride of mercury. Add the chloride solution slowly to the iodide until the red precipitate is produced and redissolved as before.

Exp. 10. Prepare some lime-water by allowing a piece of common quicklime as large as an egg to stand in a quart of water for a day. A white film will probably be found on the surface. Pour off the clear liquid for use: it will keep indefinitely in a corked bottle.

To a wine-glass full of lime-water add about twice as much water; the whole in a tall glass: a beer-glass is about the right dimensions and shape. Now insert a tube or a pipe-stem nearly to the bottom of the liquid, and blow through it for some time. The lime-water will soon present a milky appearance. This is owing to the presence of carbonic acid gas in the breath, which forms carbonate of lime in the solution. If the process is continued for some time, the water will again become clear. This is owing to the fact that water will hold carbonic acid gas in solution, and the solution is capable of dissolving carbonate of lime.

Exp. 11. To obtain the result of experiment (10) more rapidly, prepare a bottle with a cork and glass tube bent twice, so as to form a letter U. Insert one branch of the tube in the cork.

In the bottle put some pieces of marble, and water enough to partially or quite cover the pieces.

Add either hydrochloric or sulphuric acid until a brisk effervescence begins, then put in the cork and place the other branch of the tube in the lime-water, prepared as in the last experiment. The result will be accomplished as in *Exp. 10*, but more rapidly.

In this experiment the tube that passes through the cork should not reach the liquid in the bottle.

In the absence of a bent glass tube use a straight one, and conduct the gas through a rubber tube.

The common soda used in cooking, may be substituted for the marble.

FEBRUARY, 1869.

SELF-EDUCATION OF TEACHERS.

TO teach for three or four years will probably prove beneficial to any competent person. The novelty of the sphere will retain its freshness comparatively well, for that length of time. The ancient saying, *discimus docendo*, will continue to have force. Suggestions of new ideas will not fail to meet the teacher in the yearly round. Pupil development will not, in that time, come to be the fixed standard from which to judge of human capacity. The childlike will not, by the law of imitativeness, make the teacher's character childish. Insight into the needs of pupil-character, for its regulation, will not settle upon lifeless and arbitrary truisms to be doled out, well or ill-stated as "wise saws and modern instances" to "young teachers" in private talk, or from the lecture-stand. It will do any young person good, we say, to teach three or four years after graduating. The process will give opportunity for a grand review of studies, and communication will open up views never before within ken.

But beyond this brief period lies the imminent risk of becoming stultified and mechanized. The teacher is apt to move in a circle. Year after year he is drawn into the same round of attention to a circumscribed variety of duties which at length lose their novelty and life, and produce a reflex action upon him to make him lifeless and stale.

We deal in facts. Our object is not to smooth over, but to find relief. Something ought to be done to change the line of the teacher's tread, out of the circle into directness. He needs to go on, ever on, through regions ever new, toward the unreachable horizon. And not for his sake alone, but for the sake of the young generation that comes under his direction. Where men tread ever in a circle, we may be sure that there is something wrong which may be righted.

In the case of the teacher, we believe that the righting will be found to

consist in the study of the laws of the mind in relation to its receptivity and development, the laws which determine the growth of the body, the right training of the bodily powers and senses, and finally, the needs of the world of men. These must be recognized, and systematized and regarded in teaching, as they never have been by the mass of teachers, nor ever will be until teachers, as a class, cease to consider themselves competent to teach as soon as they know what is in the text-books they expect to use ; and are no longer satisfied with plodding their little round, year after year, as thoughtlessly as a mill-horse turning a mill.

It is vain to look to Normal Schools for the needed reform—at least, at present. Their true work they have scarcely yet begun. They must be academies, consequently cannot be true Normal Schools. They cannot develop and teach the philosophy of education, so long as their time is taken up with teaching text-books. Nor would pupils, ignorant of the elements of instruction and the simplest methods of teaching (and of such a class are Normal students usually), be competent to consider the philosophy of human development, if the Normal professors were competent to teach it. The time will come, we trust, when Normal Schools will be able to do this their true work ; meanwhile the young teacher (and the old too, for that matter) who aspires to be a true teacher, must work out his own professional culture by his own investigations. As a contributor to a late number of the *Michigan Teacher* remarks :

“Teachers must *read* more, *think* more, *investigate* more. Educational works, both books and periodicals, should be sought after, read, digested, and their thoughts carefully weighed, tested, and appropriated. No one can be a respectable teacher unless he be a growing teacher ; he cannot *grow* unless he *think* and *study* ; and the very best thought-food for the teacher, especially the inexperienced one, is the printed experience, observation, and reflection of his seniors in the profession—just as in law, medicine, theology, and everything else, that has enough worth and merit to be respectable and respected. It is a shame to any teacher not to read several educational periodicals : it is a greater shame to the beginner not to begin with laying in a store of educational supplies in the nature of educational books on which to live (professionally) and grow ; it is a shame to every teacher not to be gathering around him an educational library as a kind of professional treasure-house whence he may on occasion bring forth treasures new and old.”

VASSAR COLLEGE.

IN the *Pacific Medical and Surgical Journal* of last November we find the following, in an editorial headed, "Vassar College—Water cure and Water kill."

"We have conversed with several ladies, recently from the College, who complain of the severe hydropathic discipline to which they were subjected while there. The establishment was under the medical charge of a female hydropathist, and we suppose continues to be so. Our unfortunates were placed in a warm sitting-bath, after which the cold douche was applied to the back, followed by frictions. The cold douche was used habitually, and in the extreme cold of winter; and the shock produced by it is spoken of by the ladies as painfully severe. They add, that a large number of the pupils leave the institution with a 'weak back,' and that it is a subject of common remark among them as the result of the hydropathic treatment. We see no reason to doubt the truth of the statement. There can be no question of the veracity or the intelligence of those who make it, nor is there any perceptible reason why their judgment should be mistrusted in regard to the cause and effect. Neither is it surprising that the treatment should produce all the results ascribed to it. The matter is of importance, and demands a thorough investigation. Of latter years, the hygiene of education, so to speak, has been studied and improved, and, one might think, almost perfected. But here is a popular institution, one of the largest in this or any other country, near a metropolitan centre of intelligence, in which girls are subjected to a regular system of torture by authority of a somewhat fashionable procrustean specialty, and crippled probably for life, in some degree. The case may not be as bad as we have represented, but it is evident that a gross abuse exists, which should be rectified. If so much could be said of an educational institution under regular medical supervision, we should hear the cry of murder from thousands of throats which are piped to the note of reform."

That young ladies could be "subjected to a regular system of torture" in a school like Vassar College, seemed to us almost incredible: yet we felt that a charge of so grave a character, coming from such a source, and evidently made in good faith, should not be passed by without investigation. If true, it would be but justice to the pupils and their parents to give proof of it, and to demand a reform in the management of the Institution. If false, justice to the college required a refutation of the charge, from a source not in any way liable to be prejudiced in the matter. We have therefore made many inquiries among those most likely to know of, and least likely to palliate, such a "gross abuse," and are happy to say that we have discovered nothing whatever to justify the charge, and nothing whereon to base it—except, it may be, the simple fact that the physician

in charge "prescribes a good deal of water;" or, in other words, she requires the girls, when well, to take a bath once or twice a week, in warm or cold water as they may prefer; and extra baths in warm water, when sick. If the cold douche is "used habitually, and in the extreme cold of winter," it never came to the knowledge of our informants. The same may be said of the statement that "a large number of the pupils leave the institution with a 'weak back,' and that it is a subject of common remark among them as the result of hydropathic treatment." Delicate pupils, the surest to know of and to suffer from injudicious medical treatment, assure us that they have no knowledge, either by personal experience or by hearsay, of anything of the kind. Possibly a large number of weak-backed girls have left the college since its establishment. "Weak back" is no uncommon complaint; and with yearly classes of three or four hundred young ladies, it would require more skilful selection than any school is prepared to make, not to receive and dismiss some cases of the sort.

However that may be, we are confident that the case is *not* as bad as the Editors of the *Journal* have represented; and that it is not "evident that a gross abuse exists" at Vassar College.



CHIPS FROM SCHOOL EXAMINATIONS.

AMONG the really awful facts disclosed by the English Schools' Inquiring Commission, are some which, in spite of the sad condition of things which they reveal, are exquisitely comical. The richest development of the latter, is to be found in the reports of examinations. For example, take the following from an examination of a class in Geography from an "Upper Class" Girls' School. The questions were on a half year's work on the United States, Scotland, and Ireland. The answers are as rich as any obtained at Cornell University last fall. Of course we pick the worst ones.

"United States is remarkable for its ruins. Each State manages its own affairs; has a Consul-General appointed by the people, and a Governor by the queen. Each State has a king chosen by the people, and a House of Commons and Lords."

"The Capital of the United States is Mexican. It is governed by a queen, a council, and two representatives. It is very subject to earthquakes, and all the houses are built low in consequence."

The Month.

"The population of Scotland is 2,300,000 square miles" (repeated by two others *totidem verbis*).

"The religion of Scotland is Protestant, and the people are Catholics."

"One quarter of the inhabitants of the globe live in Scotland. Oats are the favorite food of the people."

"The climate of Scotland is in a very thriving condition."

"Ireland is nice and clean in some places, and dirty in others. It exports tallow candles and cork."

"Ireland is flat: the occupation of the people is to dig potatoes. Its ports are Aberdeen and Dundee, and it exports fish."

If anything could beat the foregoing, it was the spelling of a hopeful eleven years old, found in a boys' school. This is the way he did it, the occasion evidently being a "dictation exercise."

"The Arabs have all been wondering tribes, and have dell in tenests amid the trackls dersts which coverer a large porteon of their contry. There erly history is very imperfectly knon. The first event that is wort recording was the birt of Mahomet. This took place at Mecce a satiy on the border of the red sea in the year 570 of the Cination era. Till the age of tewlve Mahomet was a Coaml drive in the dester. He after was spent much of his time in Solude. His dwelling was a losome cave weri he pretened to be employed in pray and mtation. When he was forter yearly old he set up for a prothp."

We presume that the little fellow got no credit for his spelling of the last word. He certainly ought to have received one for originality.

THE MONTH.

EDUCATION is receiving as usual a liberal share of attention in the messages of the different State Governors. Of course, these documents, being written from a complimentary, rather than a statistical point of view, it is not reasonable to expect much information from them. Yet a few hints of the condition and prospects of Education in the different States may be gathered from them.

MASSACHUSETTS.—Governor Claflin sets out with assuring us that The Fathers of Massachusetts regarded the education of every citizen as one of the first objects to be promoted by a free people: a somewhat threadbare statement, which the people of Massachusetts are never tired of hearing. Then he sketches briefly or rather hints at the progress of the schools since the establishment of the Board of Education; finally reaching the fact that the school appropriation last year amounted to \$2,635,744, an increase over 1867 of \$280,268. This increase is nearly one dollar for

each child in the State, over five and under fifteen years of age. The whole amount granted is nearly ten dollars for every child of school age. For the erection and repairs of school-houses, there was paid the sum of \$1,495,573. Gov. Claffin, like his predecessor, finds fault with the wages paid to teachers—especially with the difference between the wages of male and female teachers. “While our women are so poorly paid for this service,” he says, “we can expect no great proficiency in teaching on their part, nor that they will pursue this occupation for any considerable length of time.” The average monthly pay of male teachers is \$72.93 ; of female teachers, \$27.84. The experiment of placing women on school committees having been successful, the Governor recommends an amendment of the law so as to allow women to be appointed as trustees and inspectors of correctionary institutions which contain young children ; especially the Industrial School at Lancaster.

NEW YORK.—Governor Hoffman says but little of the schools ; that little, however, is of the most encouraging character. The number of children of school age, in the State, is 1,464,424. The number reported as at school some part of the year 1868, was 971,512. The number of teachers employed twenty-eight weeks or more, was 16,580, of whom 12,780 were women, and 5,883 were men. The public money to be apportioned the coming year is \$2,520,000. Since the school-tax was increased three-fourths to one and one-fourth of a mill, and the schools made entirely free, the attendance has greatly increased. Two new Normal Schools will be opened the present year, and two more in 1870.

! PENNSYLVANIA.—Governor Geary gives the following school statistics for the past year : School Districts, 1918 ; schools, 13,766, of which 2,382 are graded ; Teachers, 16,771 ; pupils, 800,515 ; cost of tuition, \$3,273,269 ; the total expense of schools, school-houses, etc., \$6,200,538, making \$7.74½ for each pupil ; average yearly wages of teachers, \$195.17. These figures show a slight improvement on last year, except in the item of expenditures on school-houses. In this the increase is large,—over a million of dollars. The governor calls the attention of the Legislature to the fact that large numbers of children in the State, between 6 and 16 years of age, do not attend school of any kind. The non-attendants belong chiefly in the cities. Over twenty thousand are found in Philadelphia alone. The number in the State he estimates at not less than 75,000.

How far this is the result of insufficient accommodation is not stated. Two new Normal Schools will probably go into operation this year,—one at Bloomington, Columbia Co., the other at California, Washington Co. The Soldiers' Orphans' Schools are said to be in good condition, and improving. In all, there are 3,431 soldiers' orphans who are supported and educated by the State, at a weekly expense of \$2.65½ each. The Agricultural College is to be reconstructed, and three model and experimental farms purchased for them in different parts of the State. The Faculty of the college has been reorganized and the course of study remodelled.

EDUCATIONAL INTELLIGENCE.

NEW JERSEY.—We have been favored with the financial statistics of the schools of New Jersey for the past year, in advance of the publication of the Superintendent's annual report. If the schools have advanced in merit, in proportion to the increase of expenditures for them, the State has good reason to be satisfied with the year's work. The strictly educational statistics we shall give as soon as we can get them. The State appropriation for 1868 amounted to \$1,313,358,—an increase over 1867 of \$417,423, the gain being mainly in district tax. The voluntary school tax for 1868 was \$1,140,142,—more than double the amount ever before raised in any year previous to 1867. There has been a very rapid increase in this voluntary tax since 1866, giving evidence of a rapidly increasing interest in education among the people. During the ten years, from 1857 to 1866, the gain was \$317,185; from 1866 to 1867, it was \$278,068; from 1867 to 1868, it was \$355,412. If there is a like increase next year in those localities which most need it, it is believed that all the schools in the State can be made entirely free. The increase in the amount of money raised for building and repairing school-houses is still more remarkable; the sum raised for these purposes being \$805,581—over seven thousand dollars more than was raised for these purposes during the preceding fourteen years, and eight times as much as was ever before raised in any one year. The State Normal School and its dependencies, the Model and the Preparatory School, are steadily increasing in popularity. The first had an attendance last year of 259; the second, 555; the third, 302—altogether, 1116. The property of this institution is valued at \$250,000, on which there is an encumbrance of \$23,000. Connected with the Normal School is a boarding-hall, which accommodates 130 lady boarders. The cost of board is only \$3.50 a week, including fuel and light. The boarding arrangements are said to be completely successful.

MILWAUKEE.—The school population of this city, Aug. 31, 1868, was 23,660, an increase for the year of 1,525. The increase in the number enrolled in the schools was considerably greater, being eleven per c

In the average number belonging to the schools, the increase was over twelve per cent., while in the daily average attendance it was over nineteen per cent. This shows a commendable improvement in the efficiency of the schools. So far, good : but against this we must place the fact that nearly a third of the children of the city do not attend any school, public or private. This is clearly the fault of the city, not of the schools. The Superintendent says, "No sooner is a school-house erected, than it is filled with pupils." About half the non-attending children are estimated to be engaged in some kind of employment. The rest are "roving about the streets." In view of the necessity of doing something to bring these children into the schools, the Superintendent asks, "Do we need a compulsory law?" "Certainly not," he replies, "until we can provide for those seeking accommodation in our schools." On another page, he says : "When the school census shows hundreds of children not attending school, and the school reports show hundreds of vacant seats in our school-houses, then will be the time to advocate the passage of a compulsory law of attendance—a contingency, we think, not likely to occur in our day. If the city will provide school-houses, and the Board employ teachers, we have no doubts regarding the pupils." This, to our mind, is the best answer that can be given to the advocates of compulsory attendance, throughout the country.

The census gives 8,104 as the number of children attending public schools, and 5,125 attending private schools. Reports of teachers show that the number enrolled in the public schools was 10,481. The reports of private schools give 6,409. Of the number enrolled in the public schools, about fifty-six per cent. were in actual, daily attendance. Assuming the same per cent. as the actual daily attendance upon the private schools, there would have been 3,587 : making the number in actual daily attendance at schools of all kinds, 9,500 : that is, 40 per cent. of the entire school population.

The cost of the public schools last year was \$73,819. The cost of instruction was \$7.04 a pupil—estimated on the basis of enrollment. Estimated on the daily attendance, it was \$12.62. This includes the High School. Exclusive of the High School, the cost was \$6.81 on the former and \$12.27 on the latter basis. This is an increase of 36 cents a child on the number enrolled ; and a *decrease* of twelve cents a child on the daily attendance—the result of increased regularity of attendance. The good sense of Superintendent Pomeroy is shown in his remarks concerning primary schools and primary teachers, as well as in the matter of attendance. Indeed, his views on this point are so eminently sensible, that we here present them for the consideration of school officers :

"We are decidedly in favor of paying our primary teachers better wages than in the other departments, and then demanding *experience* as a qualification. The primary schools are the basis of our whole system ; thorough work here tells throughout the whole course. Teaching, like other professions, is learned by experience ; but the mistakes of a tyro in the profession are more serious in the results when made in our primary schools, than in departments where the pupils are older. Too much time is lost by our Grammar and High School teachers in doing work that has been poorly done by our Primary teachers, simply from want of experience. Teachers, to do good work, must not only love their call-
-have their heart and soul in the work, but must also know how to

do their work ; and the Primary Schools are not the proper places for them to learn in. It would be better for our schools to place our new teachers in the Grammar Departments, and let them work up to the Primary Grades."

SPAIN.—Curious ideas are prevalent about the state of education in Spain. John Arthur Roebuck's "Dumb-founded Spaniard" has become one of the standard epithets of the language, but the belief that the Spaniards are a peculiarly uneducated people, without schools or means of improvement, is as exaggerated as it is popular. Evidence of this fallacy may be found in *The Annual of Public Instruction*, issued some time ago by the office of Public Instruction at Madrid. In the number and antiquity of its universities, Spain is behind few countries in Europe. There are at present, in working order in Spain—or were previous to the revolution—10 universities for general education, 11 devoted to *the cultivation of the fine arts*, 1 for music, 2 for *manufactures*, 1 for diplomacy, 5 for *commerce*, 17 for *navigation*. Some of these probably do not rank higher than our so-called universities, corresponding to the high schools of other countries. These statistics show the attention paid to superior education. Primary education is not neglected, if we judge from the number of elementary schools—27,000. The training of teachers is carefully attended to, 77 Normal schools being devoted to the task. The libraries are exceedingly rich ; that of Madrid contains 300,000 volumes ; Central University 300,000 ; Barcelona, 136,000 ; Salamanca, 55,000 ; Palma and Majorca, 35,000 ; Mahon, 11,000 ; and other Libraries, making a total of 1,166,595 volumes. In the archives of Simancus there are 70,278 packets of manuscripts, and in that of Alcala de Henares 35,160. A grant of 23,000,000 of reals is made by the government for the support of this educational system, in addition to the communal provision of 110,000,000 reals : equal in all to about \$1,330,000.

ENGLAND.—The University of Cambridge has followed the example of the University of London in determining to institute examinations of women. The Syndicate appointed to conduct the examinations of students, not members of the University, having reported that examinations, for the purpose of testing the higher Education of women above the age of eighteen, might be undertaken by the University without inconvenience, and recommended that such examinations be held at suitable times and places, the Senate adopted the report without opposition. Every candidate is to be examined in religious knowledge, unless she declares her objection in writing. Certificates will be granted, but no name or class-lists published. The scheme is to be tried for three years.

The Annual Blue Book shows that the number of children in England and Wales, who were in "average" attendance during 1867, in schools inspected, and aided by government grants, was 911,681, or about 4½ per cent. of the population. This number does not include children attending workhouse and reformatory schools. It appears from the returns made to the House of Commons at its last session, that there is room in the schools, which have received Government aid, for nearly twice as many children as regularly make use of them.

RUSSIA is very careful of the minds and morals of her Polish people—but but strange to say, they do everything to thwart her benevolent purpose.

But Russia is powerful and persistent ; and, judging from the spirit of her policy in Poland as recently exhibited by the Curator of the Educational district of Vilna, in Lithuania, it will be a wonder if she does not succeed in effecting—perhaps more than she desires. That gentleman declares, in a series of articles in the local official journal, that the steps hitherto taken for Russifying Lithuania, by forbidding the use of Polish in the schools, and confiscating all Polish prayer-books, are not sufficient for their purpose ; and that “unless the Polish youths are entirely removed from the influence of their parents, there can be no real Russification.” “The pupils,” he adds, “pass only five hours of the day in the schools ; during the remainder of the time, and on holidays, they are in contact with the pernicious Polish element. All the good principles which are inculcated into them at school, are lost in conversing with their fathers and mothers in Polish. These imprudent parents do not understand what a demoralizing (?) influence they exercise on their children.” He therefore recommends, as a preliminary measure, that all children except those who live with their parents, should, after the hours of study, be placed under the surveillance of committees composed of educational officials, and should be allowed to board only with persons provided with certificates from the authorities “of good political conduct.”

JAPAN.—The Japanese women have more attention paid to their education than is usually bestowed upon the instruction of the female sex in other Eastern countries. For the lower class there exist what may be termed primary schools, where both boys and girls are taught together. At a proper age the boys are drafted off to separate schools to pass through a definite course of study, and the girls are instructed in domestic matters.

The accomplishments of painting and music and poetry are taught to women of the higher classes, as well as to those whose only object is to attract attention. There are dramatic, historical, and poetic works written by women, which command as much attention as those written by men. This, of course, evidences an amount of mental culture, in Japanese women, nearly if not equal to that of the other sex. The possession of the power of literary composition among Japanese women is of very ancient date ; for we find poems written by them among popular collections which go back to very ancient times. For instance, Jito wrote the second Ode in a number gathered together by Telk, who died A. D. 1241. Her mother was the daughter of a nobleman. Jito married the Emperor Ten Mu, and after his death assumed the government in the year A. D. 702.

So, again, we hear of mother and daughter, high in rank, who both possessed so much poetic talent that, on some verses composed by the daughter being read at court, the audience refused to believe they were not the mother's production, until she disavowed having in any way assisted her daughter in writing them.

These facts, which can be relied upon as authentic, show the great age of these Eastern civilizations compared with our own ; for at a time when England was divided into numerous small districts, and its inhabitants engaged in constant petty warfare, when letters were preserved only in the monasteries, and the chieftains knew no arts but those of the sword, Japanese princesses were composing poems which, repeated from mouth to mouth, and multiplied by the process of printing, have been handed down to the present day.

CURRENT PUBLICATIONS.

WE have sometimes thought it would be a capital experiment, and not a useless one, to have a school-book made studiously bad,—so utterly bad indeed that it should not have one redeeming feature—and then see how many respectable papers and respectable teachers would praise it. But we are beginning to think that it would be a needless expense. It would be impossible to make a book containing elements of badness which have not been already commended. We have before us one which we should despair of rivalling, yet it bears the imprint of a House whose name has heretofore been a guarantee of the good character of any work bearing it; and has been highly praised by periodicals which claim to be, not merely teachers of ordinary men, but teachers of teachers. This fact alone causes us to notice so worthless a thing.

We happen to know something of the history of the book, of which this much it may not be out of place to state: a publishing House in this city refused not merely to publish the book, but to make the plates at the author's expense. They would not be party to the making of so bad a book, though they ran no professional or financial risk in doing it.

The book has been lying on our table unnoticed for several months. We thought it a sufficient condemnation of itself, and a sufficient punishment to the publishers for lending it their imprint. It seemed impossible for any one to be deceived by it, notwithstanding the portentous "LL. D." which adorns the author's name on the titlepage—a rare distinction for a woman, we believe; and we know that the author is a woman. The plan of the work would be enough to condemn it, even if the execution were unexceptionable; but the execution is worse than the plan. Left to itself it would fall dead. As we have said before, we should not notice it at all, were it not being praised by respectable periodicals, which seem to be trying to galvanize it into life.

For the sake of justifying our complaints against the publishers and the book-reviewers, we will say that the work¹ is a cram-book of Geology and Mineralogy, written by one who has no idea of correct methods of teaching these subjects, and no knowledge of the subjects more recent than that contained in popular works published a dozen or twenty years ago. It is needless to say that there have been a few changes in these sciences since that time. She has evidently heard of, perhaps read, the first edition of Lyell's *Elements*, Hugh Miller's *Testimony of the Rocks*, and Hitchcock's *Geology of the World*; but nothing later. "The fossiliferous rocks," she says, page 24, "are described under the following divisions: Upper Silurian, Lower Silurian, Devonian, and Permian!"—after which, no more need be said of her knowledge of this part of Geology. Fortunately she does not say much of fossiliferous rocks. Mineralogy is her stronghold. She has a little box of minerals to go with her book, in which we found a bit of Gypsum labelled "quartz." She has seen Dana's Mineralogy, certainly long enough to copy, without owning it, half a dozen pages from his list of "American Localities," but she has not studied it enough to

¹ Hall's *Alphabet of Geology: or First Lessons in Geology and Mineralogy*. By S. P. HALL, LL. D. Boston: Gould & Lincoln, pp. 196.

learn how to name the commonest minerals. By the way, a simple mineral she tells us, p. 25, "is a substance having the same appearance in every part. It is *not* a simple substance," she says, "but when analyzed may be reduced to several elements. The number of simple minerals has been computed as no less than four hundred and thirty-four. Nearly fifty of them are metals"—which, it seems, are not simple substances, as has hitherto been supposed. Her Chemistry is peculiar, and undatable. There is nothing else like it on record. For example: Verdegris is a poisonous *oxide* of copper.—Chromate of iron is a combination of *chrome* and iron.—Nitric acid is a *white* liquid with a nauseous odor. It unites with energy with most metals, such as iron, *tin*, etc.—Many varieties of *sulphate of iron* rapidly decompose when exposed to the air, and rocks containing it are unsuitable for building-stones.—*Barium* is one of the *metals* of importance, as it aids in forming some of the precious stones.—Both sulphuric and carbonic acid unite with a *base* called *strontium*, which is an *oxide*.—Open where you will, and you will not fail to find nonsense or error, if not both. The supplement on Paleontology is one of the strangest hashes ever seen in a school-book, and that is saying a great deal.

Would a sane person believe it possible that such a wretched little impostor could receive the approbation of respectable people? Yet it has been praised, and that too by the *Massachusetts Teacher*! This is what that amiable monthly says of it (Dec. '68, page 466): "This little work seems eminently adapted to supply the wants of those who are just starting in this department of Natural Science, and may well serve as an introduction to the more complete works of Hitchcock, Dana, Shepard, and others." Eminently adapted, indeed! We can account for such nonsense only in two ways: first, that the reviewer knows nothing of Geology, Mineralogy, or Chemistry; and second, that he never saw the book. In either case, the notice is a disgrace to the *Massachusetts Teacher*, and an insult to the teachers of Massachusetts. It is more. It is an insult to the cause of education, and to the intelligence of the American people,—and should be resented as such. If book-notices mean anything, or are ever to mean anything, let us have done with this bespattering with compliment every book that is printed, the good, bad, and indifferent alike.

The Mythologies of Greece and Rome, we doubt not, are to a certain extent allegories. To interpret them aright, and bring out the poetry and romance that lie veiled beneath them, is a task not easy of accomplishment. Indeed, the attempt to explain an allegory whose meaning is not obvious or already known, is always a delicate and more or less hazardous undertaking. And yet this attempt has been made from time to time in regard to the legends of ancient Greece and Rome. One of the boldest and most recent adventurers in this field is the Rev. Geo. W. Cox, of Oxford.¹ He attempts to explain the Greek and Roman myths on philological principles. He follows in the wake of Max Müller, and assumes that the names of the gods, goddesses, nymphs, heroes, and other mythical beings, are but old names of common things, the original meaning of which names was long ago forgotten, even before the times of those who used them in their mythological narratives, and that the actions attributed

¹ Manual of Mythology. By Geo. W. Cox. 16mo, pp. 300. New York: Leypoldt & Holt, 1868.

to those beings are but events of every-day occurrence in nature. Thus, the well-known story of Orpheus, who

“ Drew iron tears down Pluto's cheek,
And made Hell grant what love did seek,”

is interpreted as follows: The word *Orpheus* means the sun. *Eurydice*, the name of Orpheus's wife, means the dawn. The serpent that stung Eurydice and caused her death, is “the serpent of darkness, which kills the beautiful twilight in the evening.” The descent of Orpheus to the lower regions is the setting of the sun. The disappearance of Eurydice upon the looking back of Orpheus, is the disappearance of the dawn at the rising of the sun. Now, this may be satisfactory to some. It may be poetry. But, to us, it is the merest bosh. In the story, Eurydice precedes Orpheus to the lower regions. In the order of nature, the sun (Orpheus?) goes down before the twilight (Eurydice?) dies, or is even born! In the story, Orpheus takes the lead in coming up from Orcus; in nature, the dawn precedes the rising of the sun. How the sun causes the woods to bend, or the streams to cease flowing, as the music of Orpheus is said to have done, or what the counterpart to that music is, or what all Orpheus's supposed playing before Pluto and Proserpine means, the author does not pretend to say. In like manner, his explanations generally are partial, confused, and unsatisfactory. Besides, he attempts to carry his allegories too far. He would convert realities, like the siege of Troy and the events that followed it, into myths, denoting “a repetition of the daily siege of the east by the solar powers that every evening are robbed of their brightest treasures in the west!” The author is, in fact, sunstruck. Every hero is, with him, the sun; his wife, or bride, or love, the dawn; his children, or servants, or attendants, the clouds. The wife of Hercules (who is only the sun), is the clouds; and the golden apples that he secures are also clouds—“the golden-colored clouds which are grouped round the sun as he sinks in the western sky!” The whole thing, book, explanations, and all, is the sheerest namby-pamby that we have seen for many a day.

The time is coming, we hope, when all our school-books will be written by masters of their respective subjects: not by retired schoolmasters; or worse, by publishers' hacks, who, for a consideration, will undertake to prepare—by a summary process of grabbing—a “complete” series of text-books from a primer to a Greek Lexicon, embracing the whole circle of the sciences.

When that happy time does come, we shall have more school-books of the character of Professor Dalton's *Treatise on Physiology and Hygiene*.² This, so far as it goes, is worthy of unqualified praise. The author's happy style as a writer and lecturer on Physiology is well known. He has spent many years in investigating and teaching the subject, and has been eminently successful in both. His knowledge and experience enable him to survey the whole extent of Physiology, as far as it is known, and to select, with just discrimination, the most necessary as well as most interesting facts of the science, and to present them in their natural order

² A *Treatise on Physiology and Hygiene: for Schools, Families, and Colleges*. By J. C. DALTON, M. D., Professor of Physiology in the College of Physicians and Surgeons, New York. New York: Harper & Brothers. 12mo, pp. 399; \$1.50.

and proper relation to each other. He thus knows not only what to give, but what to leave out,—a qualification of prime importance in preparing an elementary school-book.

We have said that the work is entirely satisfactory—so far as it goes. We should have been better pleased, had the author gone further, and given a chapter or two on reproduction and fetal development: a difficult subject to treat in a school-book, we admit; but none the less necessary to be treated. School-boys and girls, if not instructed in the other portions of Physiology, remain simply ignorant. Of this, they are sure to learn something, and that something, *wrong*. No one is better fitted to treat this subject as it should be treated than Prof. Dalton. We hope he will prepare a supplement to his "Treatise," to be bound with it or separately, supplying the needed chapters on this most important part of the science.

We are glad to see added to the list of Educational monthlies, *The Kentucky Journal of Education*. It is needed; and if it sustains the promise of the first number (January, '69), it will do good work in its particular field. The *Journal* is edited and published by Z. F. Smith, State Superintendent, Frankfort, Ky.: price \$2.

The New Englander (January) comes too late for an extended notice. The contents are: I. The System of Instruction at West Point:—Can it be employed in our Colleges?—*Robert P. Keep*.—II. How to build a Nation, by *J. P. Thompson, D. D.*.—III. The Renaissance in China, by *W. A. P. Martin, D. D.*.—IV. The American Colleges and the American Public, by Prof. *Noah Porter*.—V. Prof. Porter's Work on the Human Intellect, by Prof. *B. N. Martin*.—VI. The Presbyterian Disruption of 1838, by Prof. *Leonard Bacon*.—VII. Notices of Books, etc. The price has been reduced to \$3 a year for mail subscribers. New Haven: W. L. Kingsley.

The American Journal of Science and Arts (January) contains: I. An account of the Meteor which burst over Weston, Conn., Dec., 1807, by Professors *Silliman and Kingsley*.—II. On the Distillation of dense Hydro-carbons at a high Temperature, by *S. F. Peckham*.—III. On the Chromites of Magnesium, by *W. R. Nichols*.—IV. Physiological Chemistry; part II: by *G. F. Barker*.—V. Derivative Hypothesis of Life and Species, by Prof. *Owen*.—VI. On Some Phenomena of Binocular Vision, by *Joseph Le Conte*.—VII. On the Geology of Lower Louisiana and the Rock-salt deposit of Petite Anse, by *E. W. Hilgard*.—VIII. Notes on the recent volcanic disturbances of Hawaii, by Rev. *Titus Coan*.—IX. Geographical Notices, by *D. C. Gilman*.—X. Meteors of November 14, 1868, etc. New Haven: Silliman & Dana. Bi-monthly, \$6 a year.

BOOKS RECEIVED.

Harper & Brothers: GREATER BRITAIN: a record of Travel in English-speaking countries during the years 1866 and 1867. By CHARLES WENTWORTH DILKE. With maps and illustrations. 12mo, cloth, \$1.—THE OLD WORLD IN ITS NEW FACE. Impressions of Europe in 1867-1868. By HENRY W. BELLOW. 2 vols., 12mo, cloth, \$3.50.—JESUS OF NAZARETH: His Life and Teachings. By LYMAN ABBOTT. Crown 8vo, cloth, \$3.50.—WILD LIFE UNDER THE EQUATOR: Narrated for Young People. By PAUL B. DU CHAILLU. 12mo, cloth, engravings, \$1.75.—ADVENTURES IN THE APACHE COUNTRY: a Tour through Arizona and Sonora, with Notes on the Silver Regions of Nevada. By J. ROSS BROWN. 12mo, cloth, \$2.—NATURE'S NOBLEMAN. By the Author of "Rachel's Secret." 8vo, paper, 50 cents.

Charles Scribner & Co.: THE LAW OF LOVE AND LOVE AS A LAW: or, Moral Science, Theoretical and Practical. By MARK HOPKINS, D. D., LL. D. 12mo, cloth, \$1.75.—INTRODUCTION TO THE STUDY OF ENGLISH LITERATURE. By HENRY N. DAY. 12mo, cloth, \$2.25.—THE CONSCRIPT: a Tale of the French War of 1812. By M. M. ERCKMAN-CHATRAIN. 12mo, cloth, \$1.50.

M. W. Dodd: WATCHWORDS FOR THE WARFARE OF LIFE. FROM DR. MARTIN LUTHER. Translated and arranged by the Author of the "Schonberg-Cotta Family." 12mo, cloth, \$1.75.

Leypoldt & Holt: TOBACCO AND ALCOHOL. It Does pay to Smoke. The Coming Man will Drink Wine. By J. FISKE, M. D. 16mo, cloth, \$1.

D. Appleton & Co.: A HALF-CENTURY WITH JUVENILE DELINQUENTS. By Rev. B. K. PIERCE, D. D. 8vo, cloth, \$1.50.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

MARCH, 1869.

*MY SCHOOL-BOY DAYS IN NEW YORK CITY FORTY
YEARS AGO.*

BEFORE Horace Mann appeared to bless the people of Massachusetts, by giving to that Commonwealth a highly reformed and splendid system of education; before Herbert Spencer, in his profound treatise on human culture, had laid down the Law of Nature by which the race should be educated; before our own Youmans, and others of the present age, had uttered their philosophic thoughts on the same subject; nay, before there was any "Society for the Prevention of Cruelty to Animals," it was my misfortune to be a school-boy in the city of New York. I mention this last benevolent institution, since if there then had been such a thing, there also might have been some society, or some law, for the prevention of cruelty to school-boys.

Charles Dickens, in "Nicholas Nickleby," has given us his world-renowned description of Dotheboys Hall; but his account was fiction; mine is history: he had to invent; I have only to remember.

Few things in life are more painfully sad to one who has had some ambition "to know the secrets of this wondrous world," than the remembrance that his early training was such as to deprive him of that development to which, by no effort in after-life, he can ever attain. How the sad and solemn lines of Longfellow find an echo in our breasts, while sorrowing over the forever lost days of youth!

"Ah, me! what wonder-working occult science
Can from the ashes in our hearts once more
The rose of youth restore?
What craft of Alchemy can bid defiance
To time and change, and for a single hour
Renew this phantom flower?"

And the sea answered with a lamentation,
Like some old prophet wailing ; and it said—

Alas ! thy youth is dead !

It breathes no more ; in the dark places with the dead of old
It lies forever cold !”

To recall with much minuteness the events of forty years ago, may seem a doubtful undertaking ; but let it be borne in mind, they were impressive events, stamped on the mind of early childhood ; and it is scarcely necessary to add, that the Man remembers many of the far back incidents of his early years, much better than the comparatively recent ones of his adult age.

Now, first, as to my school-house. It was the basement of a large Gothic church, situated on what was then the northern outskirt of the city. Broad unenclosed acres stretching out of sight, where we were wont to fly our kites, play at marbles, ball, and tag, made up its background. But the pavior and the mason have been abroad ; stony streets and bricks and mortar, cover the playgrounds, and the only landmark left to identify the spot, is the old towering massive edifice, hemmed in for miles round by the swarming habitations of men. The school-room, as it then appeared, was about one hundred and fifty feet long, by about seventy-five feet wide ; but, as the size was measured by the magnifying eye of childhood, it was probably of smaller dimensions. Low and narrow windows, set in alcoves along one side and both ends of the hall, let in the light, interspersed, at the decline of day, with spectral shadows of the gravestones without. A row of long desks, with backless benches, upon each of which sat, with curved spines, some dozen pale-faced, cowed-down boys, extended through the middle of the room at right angles to its sides, leaving a wide rectangular space, or rather race-course—as will appear—round the school-room. Attached to one end of about two-thirds of the desks, were round vertical shafts, having mounted on the top square wooden blocks, painted white, on each side of which were painted, in black letters, words or sentences, according to the grade of the class. These were to be written down on sand and slates, when enunciated by a large boy called the “Dictator,” as he paced down the hall with a measured tread and authoritative voice, dictating to each class the lesson of the moment. On a platform, at the upper end of the room, stood the Master’s desk and high seat. Here enthroned, the Monarch of the school, with ferule, cat-o’-nine-tails, and other implements of torture, to uphold his government, reigned over his subjects in all the pride and power and ignorance and cruelty of the king of Dahomey, exercising his absolute authority over his black kingdom. No means of ventilation whatever was to be seen. The word “ventilation” was not known in the vocabulary of the school ; but the heat, with all its noxious gases, generated by that

breathing multitude of boys, was carefully kept within the school, as a substitute for fuel. With doors and windows tightly closed, and about one hundred and fifty scholars exhaling carbonic acid gas, and radiating impurities from their unwashed persons, all day long, the atmosphere of the place must have been very like that of the Black Hole of Calcutta. Neither blackboards, maps, atlases, nor artificial globes, were ever used in the school. Descriptions of the Earth or of the stars, we never had; but instruction on the physical geography of Heaven and Hell, we had abundance. In place of such auxiliaries to education as maps and blackboards, there were others gracing the walls and deemed of much more importance, not only to the intellectual, but especially to the moral and religious development of the students. On the wall, behind the master, in full view of the whole school, to keep the scholars in perpetual remembrance, hung a cat-o'-nine-tails of enormous size. The handle had the dimensions of a farmer's flail. The lashes were of corresponding length and as thick as your finger;—it took both hands to wield it. This was taken down to be used on extra occasions only; but a single-handed one was in constant service in the daily training of the school. In close company with this huge "cat," hung two other implements of culture. These last were made of leather, covered over with some kind of hard, pitchy material, and were called respectively the "Fool's-cap" and the "Hangman's-cap." The former was a kind of skull-cap, without a visor, which made a person look, and I presume feel, like a fool indeed. The "Hangman's-cap" jutted all over with indescribable angles and snaky curves, like one of those horrors worn on the head of a Chinese god, or a victim of the *Auto-da-fe*. They were both instruments of great terror—equally as much so as the huge "cat" hanging beside them, dreadful as that was. In addition to these, erected on the platform to the right of the master, was another apparatus of the system, called "The Iron Bar." This was a rail of iron, about three feet long and about an inch square at its transverse section, placed in a horizontal position on upright supports, about eighteen inches high. It was used for feats of equilibrium performed with bare feet, that were cruel in the extreme. These engines of torture were used chiefly to reform the characters of those who were deemed the malefactors of the school. They were regarded as absolutely necessary to morals, order, and mental discipline—to be held *in terrorem* over some and applied without mercy to others. As I still remember them, they appear as bloody instruments of the Inquisition, and, without doubt, would be rare curiosities for the museum of the present day. But their practical application will be related further on.

The instruction came under no general method of teaching that was ever elsewhere my experience to know. It could not be called the "Lancasterian system," although it had an element of this. It was not the

"Kinder Garten," nor the "Pestalozzian system," nor even that of Teddy O'Rourke, the celebrated "Irish Tutor." It was *sui generis*. The "Faculty" consisted of the master, the dictator, and a monitor for each class, excepting the classes engaged in what were considered high abstract studies. The latter came under the immediate instruction of the master. He had the supreme appointing power of the dictator and the monitors; but the clergyman who officiated up stairs, and who was the Lord Temporal and Spiritual of the school, had the appointment of him. The dictator and monitors were selected from the larger boys, applying the principle of rotation in office. A week at a time was the length of their administration. Their positions were regarded as honorable and were very authoritative. The schoolmaster seldom or never came in contact with the scholars under the monitors, except with the ferule, the "cat," and other mediums of a similar nature, of which more anon.

It was the uniform custom of the master not to arrive in the morning till about half an hour after the regular time for commencing school. Some of the boys, who knew where he lived, were by turns assigned the duty of going every morning to his house for the key to open school betimes, in order that the preliminary exercises of the day might be got through with by the monitors, and things set in motion by the time the master came. One striking incident of those days causes me vividly to remember this usage of the school. I will here, by way of parenthesis, relate it, though it more appropriately comes under a different head of the system from that which is now about to be described.

One fine morning it so happened that nobody went for the key, and the scholars, of course, could not get in school. Overjoyed at their half-hour immunity from their penitentiary, they were improving it out of doors with uproarious jubilee. Of a sudden there was a lull—what's the matter? "The master's coming," announce some terrified breathless urchins. 'Tis true! 'tis he! He approaches with rapid strides, threatening looks, and menacing mutterings; he shakes violently his pugnacious Phrenological organs; he shakes one fist, then the other, then both; he shouts savagely at us to come into school; he shakes furiously the school-room door when opening it, as if it also were to blame. The epithets "Rascals!" "Villains!"—threats, denunciations, almost imprecations, fall from his lips as we enter. He starts immediately for his desk, seizes his ferule—"Silence, and stand up every one of you!" he shouts. As quick as well-drilled soldiers, we fall into line, with our backs against the wall, all round the hall. "I'll show no partiality," he exclaims; and commencing at the head of the line, he deals each and every one of us three hard stinging cracks upon each hand, because somebody didn't go for the key. This chastisement he, no doubt, considered impartial and "even-handed justice." The fact of the matter was, however, that not one in twenty of the

punished boys knew where the cruel tyrant lived, and the delinquent boy, whose special duty was to go for the key that morning, was probably not at school that day.

The preliminary exercises of the morning consisted of spelling and reading. No uniform sort of books was used in the school, save the Catechism. As every word of this was absolute and infallible truth, there, of course, could be no improvement to it, and therefore there were no varieties. We were more liberal and latitudinarian in our secular books. One scholar had one kind of spelling-book, another a different one. One read from the "English Reader," another from "Cook's Voyages," and a third from the "Life of Washington,"—all in the same class. Arithmetic was taught from "Dilworth's Assistant," "Daboll," and from an antediluvian relic, called "The Gough." This last book was considered as exhaustive in the science of numbers, and was said to be the production of a person of the same name, a great Irish scholar, who lived in ancient Irish times. The spelling-lesson of a class would be heard one morning from one kind of book and on the next from a different kind, just as it happened; and that boy was accounted lucky whose book chanced to be selected for any single occasion, as he, therefore, was more likely to be posted in the lesson than the rest of his class.

Let us take the system in its daily order. It is nine o'clock. A boy has just returned from the master's house with the key. He opens the door, rings the bell, and the scholars without, leave off their sports and pour into school. They array themselves against the wall around the room as military companies, each class under its own monitor as captain. Doubt, fear, and trembling agitate many, as if they really were soldiers going into battle for the first time. The report of their scholarship on the present occasion will be made to the master upon his arrival, and they have often experienced the penalty of being delinquent in their "task." Spelling now commences along the whole line;—each captain, as it were, drilling his own company according to a system of tactics peculiarly his own; but an apparent unity of action and purpose, and certain *esprit de corps*, pervade the whole body. It is indeed an exhibition of interest to the uninitiated. Some hundred simultaneous voices, pitched on every key of the chromatic scale, enunciating sounds and words of every description, with the loudest force that lungs can give, make so clamorous and heterogeneous a tumult, "that with the hurly" the dead, lying in the churchyard without, almost awake. The stentorian rapidity with which each scholar of each class succeeds his bawling predecessor in the hubbub, sends the discordant echoes flying round the school-room, like a chase of invisible demons. The spelling over, a short reading-lesson follows, of a similarly ludicrous character.

Passing without remark the style of articulation of the English tongue

in this seminary of learning, I may be permitted to say a little of the mode of its pronunciation current here. As may be anticipated, it was somewhat different from that of our present unabridged Websterian and Worcesterian times. Comptroller was pronounced with a "Comp"—and why should it not be? Arithmetic was called "A-rith-mat'-ic;" Algebra, "Al-ge'-bra;" Minus, "Min'-us;" Conflagration, "Con-flag'-er-ation," and Hypothenuse, "Hip-o-the-nuse."

Invariably, in a manner somewhat similar to that in which the unfortunate matutinal crowd of malefactors is brought up before the "Tombs" Justice, a large number of the scholars were placed before the master every morning on his arrival, to receive from three to six stinging muscular blows on the hands, with the cat or ferule, for the various shortcomings reported by their monitors. It not being customary to go into any investigation as to the guilt of those arraigned, it took but a short time to get through with this indispensable morning exercise.

The classes were arranged in the following order. The primary class was called the "Sand class." This had white sand spread out on a horizontal desk, with moulding on the edges to keep it from spilling on the floor; and on this economical sort of stationery, similar to Archimedes demonstrating his proposition on the ground while Syracuse was being stormed, the least advanced scholars exercised their intellectual and artistic powers, learning, at the same time, how to name and draw the letters of the alphabet. Next came classes in ascending order, that wrote down words and sentences on ruled slates; then classes that spelled the long hard words, "Involuntary" and "Unreasonableness," and wrote in copy-books; then classes that ciphered in Addition, Subtraction, Multiplication, and Division—even "Long Division." The Fraction and Rule of Three boys came next in order; then the few who had reached as far as the intricate and deep mysteries of the Square and Cube Root,—each class diminishing in numbers as it ascended the "Hill of Science," till, finally, we arrive at a solitary student sitting alone in his sublime and sacred insulation, who has reached the Ultima-Thule of all learning—"Mensuration"—"Hawney's Mensuration," I think it was called,—a work which was a sort of companion of "The Gough," and like it, I believe, written in Ireland, at any time since the building of the Round Towers, by some traditional personage, regarded among the people of that country as the Irish Euclid. These two books were considered the greatest mathematical works in the world. This sequestered, and, we may imagine, sad young man (for it is to be presumed that having conquered all the kingdoms of learning, he sometimes wept because there were no more of the same sort to conquer), standing on the line which divides all science from nescience, as we might expect, was the wonder and admiration of the school. Nay, he always received a call from the patrons of learning who visited us, to

be discoursed with and eulogized, often hearing the remark from them, that his great acquirements would forever be an honor to his name. When through mensuration, the student must of course quit school, because there was nothing more to be learned. Several of these high graduates resided in the neighborhood. It was a common remark that there was danger of their going crazy from their immense learning. They were looked upon with profound respect by the *literati* of that vicinity, and were a sort of privileged personages, having, as it were, the "Freedom of the City." If a student, not yet a sufficient adept to perceive the practical application of his abstract speculations on the ten digits, inquired the object of studying numbers, he was told that it was "to 'learn' him how to keep store,"—an explanation perhaps no less sensible than the modern one, that the design of studying mathematics is principally to "discipline the mind." Each mathematical scholar, from those in Addition to him who had reached the lonely peak of Mensuration, carefully transcribed his daily labors from the slate into a large copy-book, in order to preserve them as permanent records of his scholarship. This was deemed the true method of storing up knowledge. If one of those registers of lore had been lost, there would have been so much education gone from the owner.

The morning exercises of spelling, reading, and whipping over, the subsequent performances of the day commence. The great Head-centre of the school takes his high seat behind his desk, his cat-o'-nine-tails and ferule by his hand. He now assumes his regular functions of the day. The scholars in their seats, with down-turned faces and upturned eyes, regard him with furtive glances. A thrill of fear runs through their nerves as they behold their tyrant mount his chair of state, and with a piercing, savage look, survey the petty realm over which he rules with so cruel and irresponsible sway. Each monitor takes his position at the head of his class. The dictator stands at the head of the "Sand-class," ready to promulgate the lore of the day. The master rings his little bell. The monitors then unanimously give the order, "Hands behind!" On the instant every boy has his left palm enclosed in his right behind his back, in a sort of self hand-cuffed state, and woe be to him who is not paying attention when the order is given, or is tardy in obeying it. He is immediately "sent up" to have his attention concentrated and his movements quickened. The dictator now commences: "First of the first class, *A*," giving the sound of the letter in what an elocutionist would call the "Radical Stress," at the same time turning the wooden block at the top of the vertical shaft, that the letter on it might be seen by those who were to copy it. Immediately, hands fly from behind, and each little urchin seizes his wooden style and engraves the symbol on the sand. That done, the monitor again proclaims: "Hands behind!" and in a moment, hands are as they were. The dictator paces to the next class, and continues:

"Second of the second class, May!—M-a-y!"—first enunciating the word, then spelling it, and turning the wooden block as before. Hands instantly unlock themselves from behind, grasp pencils, and write down the word quickly on ruled slates. At the next word of command, hands again revert to their places; and the dictator thus proceeds from class to class, getting into words of dissyllables, trisyllables, and polysyllables, and finally into sentences, to the end of his beat, the scholars in his rear keeping "hands behind" till he returns to dictate to them a new lesson in a similar manner; and thus continue the main exercises of the day. The master, during this time, may have come down from his seat with his portable "cat" in hand, and be engaged in whipping fractions into the heads of those of whom he has immediate charge, or making others dance Irish jigs about the floor, on complaints made by their monitors.

The closing lessons of the afternoon session were from the Catechism. By the centripetal force of this study, the classes gravitated into circles round the hall. Each monitor took his stand in the centre of his ring, and with Catechism in hand, propounded awful questions, which were quickly answered with an emphatic and defiant air, as if to say, "Who's afraid?" Let me not be thought irreverent if I here repeat a few of the questions and answers which, after the lapse of forty years, I still remember. Q. "Why did God make Hell?" A. "To punish the devils and bad angels." Q. "Can any one come out of Hell?" A. "No, out of Hell there is no redemption." Q. "Was the Hell into which Christ descended at the time of his death the Hell of the damned?" A. "No, He descended into a place called Limbo;" and so on, each answer given by every one of the class at the same time with the most positive assurance, as if we considered it but trifling to put questions to us respecting truths so self-evident.

After the English catechetical exercise, we were put through one in Latin in the same style. We now felt a pride in being in the ancient sacred classics. In this branch of study, as well as in the English Catechism, we were all the veriest adepts. No matter whether a boy could read or not, he was taught, and he knew, both the Latin and English Catechism. The Latin performance was truly appalling to eyes and ears unschooled to it. Babel would be no adequate comparison. We would anticipate the monitor, so that questions and answers came at the same time without the remotest conception, on our part, of the meaning of either. Both were in Latin, and we had no translation into the "vulgar tongue." In fact, we didn't know that there could be such a thing; for we never in our lives heard of the word "translation." We took it for granted that Latin could be nothing but Latin. I cannot venture to attempt to represent, by written characters, the pronunciation we gave the language. This can be imagined better than described. Each class, however, had a pro-

nunciation peculiar to itself, varying with the provincial accent of those by whom it had been instructed. Accuracy in this element of the study was not deemed of great importance. The physical attributes, a good brazen throat and length of breath, were most appreciated in this exciting exhibition. About one hundred voices, in loud, full, and rapid blast, blending all together in one wild conglomerate mass of gibberish, produced little short of a complete Pandemonium. The most erudite Latin scholar could not have had more certainty of being proficient in the language than we had. We believed we were complete in this branch of learning. We thought the little book contained all there was of it, and we knew all there was in the book. This is the way we studied Latin. Herbert Spencer says, "There is no error without its soul of truth in it." If we should search for so subtle an element in the foregoing method of studying the English and Latin Catechism, it might be found in the vocal training we incidentally acquired.

Having said all that space will permit of what, by courtesy, we will call the intellectual and religious parts of the system, we come to the governing part, or means employed to secure the acquisition of these branches of education, and to reform and purify the whole character of the student. This was nothing but *blows! blows! blows!* Moral suasion was a principle unknown to this institution in the education of youth. Terrible flogging was really believed to be an indispensable requisite for making a good boy out of what was esteemed a bad one, and a scholar out of a dunce. Indeed, it was regarded so potent a panacea, that it was thought wise to administer it as a preventive as well as a curative of moral obliquity or intellectual dulness. I have heard even parents, coming to inquire about the progress of their children, enjoin the master, in presence of the whole school, to "Flog them! Flog them!" In truth, the chief function of this pedagogue was to beat the boys; he was engaged in this employment the best part of his scholastic term. After the lapse of forty years, I can still see him walking up and down the long school-room with a stern air, the "cat" under his arm, with the lashes dangling behind him, and the scholars looking askance at him, as he passed their class, fearing to get a cut over the head for some misdemeanor they were not aware of having committed. This scourging instrument was never out of his reach; he carried it with him as faithfully as a sentinel on guard does his arms. The monitors were petty tyrants to the boys under them, and could have them whipped whenever they pleased. We had to buy their favor with presents to keep them from getting us whipped for nothing. A complaint made by one was indisputable. If the accused attempted a denial or an excuse, it was an outrageous act of insubordination; it only aggravated his presumed guilt and increased his punishment. When a charge was to be made, the monitor, as he walked forward and back, be-

hind his class, like a policeman on duty, would hold up his hand at full length. Then from the dread master's high seat came the fearful inquiry, "What's the matter?" "Such a boy has whispered, or looked around, or hadn't hands behind," would be the reply. "Send him up," was the command, and up went the poor trembling boy to receive several lashes from the "cat." If a boy instinctively drew back his hand when struck at by the master, two cracks were given for one.

The greatest crime known to the law of this school was to play truant—or "hooky," as it was called—or to be absent from church on Sunday without leave. We were obliged to assemble in the school-house on Sundays, and from there march to church under the monitors as captains, and the master as colonel of the regiment. When either of the above crimes was committed, "the Fool's-cap," the "Hangman's-cap," the two handed cat-o'-nine-tails, and "The Iron Bar," came into play. When the latter engine of torture was used, the offending boy was made to mount upon it with his bare feet. He was allowed no means of balancing himself but the dexterity of keeping his equilibrium by the support of his feet alone. If he fell off, or let one foot touch the platform, the master, sitting within striking distance, would lash him on again with a savage stroke of the "Cat." The grimaces of the poor victim, the writhings and contortions of his body, while undergoing this punishment, expressed how painful was the torture.

Frequent exhibitions of punishment occurred when all studies were suspended for the time being, and the whole school required to take part in the demonstration. For instance: A boy, having the "Fool's" or "Hangman's" cap on, was marched under guard to the lower end of the hall and made to get up in the recess of one of the windows. The scholars were ordered to turn and face him. The master then gave the order, and the whole assemblage, with fingers pointed, commenced to deride and insult their school-mate in every conceivable manner, and to set up so horrible a hissing at him, that one might have thought this academic place had suddenly been turned into a serpentry of the whole Ophidian race. After this disgusting act of the performance, the boy was taken down, probably to be placed on "The Iron Bar," or to receive a severe beating. I have frequently seen the victims of these and other occasions, stripped to indecent nakedness, and unmercifully whipped on their bare flesh.

It would be impossible for one unschooled to the belief, to conceive with what a superstitious abhorrence a boy, while having on the "Fool's," or "Hangman's" cap, was regarded by the rest of the scholars. He was unclean; he appeared to be under a terrible ban; he was anathematized for the time being. But the most cruel and barbarous part of all this system of moral discipline is yet to be described.

When the huge cat-o'-nine tails was taken down from the wall, a bloody and shocking scene was to be enacted. The victim, with the "Hangman's cap" placed upon his head, and denuded of his jacket, vest, shoes and stockings, was placed on the "race-course" round the hall. The master took his stand a few feet from him, with his tremendous whip held in both his hands. Then dealing the boy a heavy blow, he sent him with a leap and a shriek upon his race. *Pat, pat, pat*, you heard his bare feet go upon the floor as he sped on. Having got round to the point from which he started, the monster, waiting for him with uplifted whip, gave him another lash on the back as he passed. Another leap and heart-piercing shriek came from the suffering boy; and thus, from heat to heat around the room, the blows were repeated till you could hear his loud breathing mingled with his cries and groans as he pursued his course. When he became exhausted and nearly ready to fall, the punishment ceased. This last process of torture was frequently but the wind-up of a series of punishments gone through by the same person on a single occasion.

The good-natured priest up stairs would often visit the school. When he entered, every head would bow. Seated by the master's side, and casting his eyes about the room, he seemed to view with much complacency the scene before him. It was undoubtedly gratifying to him to contemplate those youthful minds—his growing nursery of souls, germinating so beautifully and developing so harmoniously under the intellectual, moral, and religious system of instruction with which it was their rare fortune to be favored. He would talk to us of the advantages we enjoyed, and tell us how thankful we should be to our kind teacher for the sacrifices he made daily for us; and particularly to praise God for all these blessings which He poured out upon us. Poor Martin Doyle! poor "Johnny" Cunningham! poor "Mike" Murphy! and the rest, whose names I have forgotten, if you are living in this or the other world, say, were you blest, made better boys, or did you become better men, by the discipline of those suffering school-days?

But these transactions belong now to the dead and buried past. They were the natural functional expression of the intellectual and moral development of the time and the locality in which they occurred. There are many grades of civilization existing at the same time in the same city, as distinct as if they were thousands of miles apart. The cruel master acted in accordance with the opinions and desires of those to whom he was immediately accountable. He no doubt thought he was doing his duty. It would be unfair to pass judgment on the administrators of the system by the standard of right and the improved methods of education of to-day. Let us be charitable enough to think they did as well as they knew how. I forgive them. They have now all passed away. The grim school-

master is dead ; the good clergyman is dead ; the sexton, who digged the graves in the churchyard without and tolled the bell, is dead ; the whole "Board" is dead ; the whole neighborhood is dead ;—a new generation that know nothing of those tragic days, now live around the spot. And the hundred and fifty scholars, where are they ? I never heard that any one of them rose above the common walks of life. Many grew up to be hard cases. Having graduated at the severest of penitentiaries, they found no terror in the idea of State-prison. I know not that one of all that number except myself is now living. If any still remain above the earth, within the precincts of where I live, the marks of relentless time and the cares of life, have so transformed the external identity of both them and me, that we do not know each other. I come to-night, like the solitary "last man" of the Club—I call the roll, but none respond.

AMERICAN EDUCATORS DECEASED IN 1868.

I.

WILLIAM MITCHELL GILLESPIE, LL.D., a graduate of Columbia College, class of 1834, subsequently a student and tourist in Europe for ten years, the author of "Rome, as seen by a New Yorker in 1843-44," was, in 1845, appointed professor of civil engineering in Union College, a position for which his studies abroad had peculiarly fitted him. He published, the same year, a practical manual of road-making, entitled "Roads and Railroads." He published also an able treatise on Land Surveying, and an abstract of some of Auguste Comte's works, under the title "Philosophy of Mathematics." He continued in the professorship of civil engineering till his death, a period of 23 years. He died of pulmonary consumption, Jan. 1st, at New York, aged 52 years.

Judge ALBERT GORTON GREENE died at Cleveland, Ohio, Jan. 3d, aged 86. Judge Greene's contributions to education were confined to a brief professorship in Brown University, the drafting of an admirable school law, and the reorganization of the schools of the city of Providence under it. He was a genial and brilliant writer, but seldom chose to let his productions come before the public eye. One of his poems, written at the age of sixteen, "Old Grimes is dead," will be immortal with school-boys.

WILLIAM B. BRADBURY, perhaps the most popular music composer, teacher, and compiler of music for the young, of modern times, died Jan. 7th, at Montclair, N. J., aged 52. Mr. Bradbury possessed rare power of

adapting his music to the ear and mind of childhood. His juvenile music-books for secular and Sunday-schools have sold by millions.

CHARLES C. JEWETT, for some years a professor in Brown University, and subsequently assistant secretary and librarian of the Smithsonian Institution and Superintendent of the Boston City Public Library, died suddenly at Braintree, Massachusetts, on the 9th of January, aged 52 years. He was graduated at Brown University, in 1835. He subsequently studied theology and oriental languages at Andover, Massachusetts, being for a time librarian of the Theological Seminary Library. He developed such aptitude for bibliographical pursuits here, that he was called, in 1843, to Providence to arrange the college library and make a catalogue of the books. The same year he was appointed Professor of Modern Languages and Librarian of the University. His duties were performed with great zeal and success from 1844 to 1848. On the opening of the Smithsonian Institution he was chosen Assistant Secretary and Librarian, and remained there for several years, rendering distinguished services to the Institution and the country. In 1857 he accepted the position of Superintendent of the newly established Boston Public Library. He was the author of several brief manuals relating to bibliography.

Right Rev. JOHN HENRY HOPKINS, D. D., D. C. L., Bishop of the diocese of Vermont, died at Rock Point, Vermont, Jan. 9th, aged 76. He was born of English parents, in Dublin, Ireland, his parents emigrating to this country when he was about eight years old. He was educated chiefly by his mother. After trying his hand at drawing, and in the manufacture of iron, he began the study of law, in 1817. Six years later he quit the bar for the ministry, and was ordained in 1824. In 1831 he became assistant minister at Trinity Church, Boston, and Professor of Divinity in the Episcopal Theological Seminary of Massachusetts. In 1832 he was elected Bishop of Vermont. Here he established a school for boys, employing poor clergymen and candidates for orders as teachers. His heavy expenses from this enterprise embarrassed him seriously for many years. After relinquishing this school, he projected and established the Vermont Episcopal Institute, a semi-theological school, over which he presided until his death.

Rev. JOHN CUTLER NICHOLS, a Congregational clergyman of Connecticut, who for nearly twenty years had been at the head of a select boarding-school for boys, at Lyme, Connecticut, died in that town Jan. 9th, aged 67.

Miss ABIGAIL C. HASSELTINE, an accomplished teacher, sister of Ann Hasseltine Judson the first wife of the missionary, for fifty years (1815-1865) Preceptress of Bradford Female Academy, died in Bradford, Mass., Jan. 13th.

January 26.—**JAMES MOTT**, husband of the Quaker preacher, Lucretia

Mott, founder and organizer of the (Hicksite) Friends' College at Swathmore, near Philadelphia, died in Brooklyn, L. I., aged 80.

On the same day, AMOS DEAN, LL. D., a profound scholar and eloquent writer, professor in the Albany Law School from its origin, and Professor of Medical Jurisprudence in the Albany Medical School for 21 years, died in Albany, aged 65.

February 3.—JAMES GILBOURNE LYONS, D. D., LL. D., a preacher, poet, and teacher, a native of England, and a graduate of Cambridge, died at West Haverford, Pennsylvania. He came to this country in 1844, and after two years' service as rector of St. Mary's, Burlington, N. J., removed to Philadelphia in 1846, and commenced teaching the classics. His thorough classical attainments, and his aptness at teaching, made him very successful as an instructor. He had been for many years the principal of the Haverford classical school.

February 10.—Rev. JOHN F. RICHARDSON, professor of Latin Language and Literature in the University of Rochester since its organization in 1851, a very thorough and critical scholar, and the author of a valuable work on Latin pronunciation, died in Rochester, N. Y., aged 60.

February 24.—GEORGE WASHINGTON HALL, a teacher long identified with academic instruction in New York city, a graduate of Yale College, class of 1803, died in Troy, in his 86th year. For a few years after his graduation he was engaged in preaching. In 1815 he commenced teaching in Georgia. The two following years he taught in Boston. In 1818 he removed to New York and opened the Mount Vernon School for boys, at Harlem. In 1820 he was compelled to go South for his health. In 1821 he returned to New York and established a collegiate boarding-school for boys, which became very popular, and which at General Lafayette's suggestion was named The Washington Institute. Here he remained, except for a brief period, for fifteen years, when his health so completely failed as to render him unfit for any continuous employment.

March 2.—WILLIAM GIBSON, M. D., LL. D., an eminent surgeon, medical professor, and author, died in Savannah, Ga., aged 80. For a period of about forty years, he was professor of the Principles and Practice of Surgery, first in Baltimore and subsequently in Philadelphia.

On the 22d of March, Rev. JOEL H. LINSLEY, D. D., eminent as a scholar, a preacher, and an instructor, died at Greenwich, Conn., aged 78. He was for two and a half years (1812–1815) tutor in Middlebury College, his *Alma Mater*; then, after some years' study and practice of the law, a highly-esteemed pastor in Hartford, Boston, and elsewhere; from 1835 to 1845, the laborious and successful president of Marietta College, Ohio; and from 1847 to 1868, again a pastor of the Congregational Church of Greenwich, Connecticut.

On the same day, died in Boston, Massachusetts, the Hon. HENRY

HALSEY CHILDS, M. D., Lieutenant-Governor of Massachusetts in 1843, for 41 years professor of the Theory and Practice of Medicine in Berkshire Medical College, for 26 years president of that institution, and during a considerable part of this time, professor in the Medical Colleges of Woodstock, Vermont, Willoughby and Columbus, Ohio. He was an able writer and an eloquent speaker. His age was 85 years.

Rev. WILLIAM SMYTHE, D. D., for 50 years a teacher and for 43 years Professor of Mathematics and Natural Philosophy in Bowdoin College, died at Brunswick, Me., on the 4th of April, aged 71 years. A man of rare energy and devotion to his work, and of the most unflinching industry and perseverance, he has left behind him few equals as a successful teacher. He was the author of a series of mathematical works.

April 5.—**Rev. HERMAN M. JOHNSON, D. D., LL.D.**, President of Dickinson College, Carlisle, Pa., died at Carlisle, aged 53. For 29 years he had been a college teacher: as professor of ancient languages in St. Charles College, Mo., for three years (1839–42); the same in Augusta College, Ky., for two years (1842–44); and in the Ohio Wesleyan University, at Delaware, O., for six years (1844–1850). In 1850, he was elected professor of philosophy and English literature in Dickinson College; and after ten years of service, was chosen president of the college, and professor of Moral Science. He was a popular author and reviewer, his style being marked by clearness, conciseness, and originality.

April 7.—**Rev. ROBERT W. CUSHMAN, D. D.**, for many years engaged in founding and conducting Female Seminaries of high character, died at South Reading, Mass., aged 68. He was a graduate of Columbian College, D. C. He founded and managed a Seminary for young ladies for some years in Washington. In Philadelphia he established and conducted for twelve years the “Cushman Collegiate Institute,” and in Boston a Seminary of high grade. He was a pastor for some years in Poughkeepsie and in Boston, and the author of several popular works.

April 8.—**Rev. FRANCIS JAMES LUNDY, D. C. L., Oxon.**, an Episcopal clergyman, classical teacher, and author, died in Newburgh, N. Y., aged 54. He was born in England, and educated at the University of Oxford. Soon after taking orders, he emigrated to Canada (in 1836), where he taught for several years in high-schools and in the Provincial University. He attained a high reputation there. In 1865 he removed to the United States, and engaged in teaching the classics. After a time he became rector of an Episcopal Church at Elizabeth, N. J., and subsequently of one at Newburgh.

April 14.—**Rev. H. L. BAUGHER, D. D.**, a Lutheran clergyman, President of Pennsylvania College, Gettysburg, Pa., died in that town aged about 63. He had been a teacher in Gettysburg for 38 years. For 36 years of that time he was connected with Pennsylvania College—18

years (1832-1850) as Professor of the Greek Language and Belles-Letters; and 18 more (1850-1868) as President and Professor of Moral Science. He was an able preacher and literary and theological writer.

April 25.—CHARLES P. BRONSON, a noted lecturer on elocution, philosophy, etc., and author of several text-books, died in New York city, aged 67.

May 4.—Miss MARIANNE RIPLEY, a distinguished teacher and promoter of education, a sister of George Ripley of the *N. Y. Tribune*, died in Milwaukie, Wis., aged 71 years. She was a lady of remarkable ability and attainments. After acquiring, as her father's assistant in mercantile affairs, great skill in practical business, she engaged in teaching, first in Massachusetts, and afterward, about 1836, at the West. She subsequently engaged in the Brook Farm enterprise with her brother and other friends, and on its failure resumed her position as teacher. Compelled by ill health to relinquish her school, she never lost her interest in educational matters.

May 5.—Professor CHARLES GRAFTON PAGE died at Washington, D. C. He was a graduate of Harvard University, class of 1832. After studying medicine in the Boston Medical School, he removed to Virginia, where he practised his profession. About 1838 he was appointed professor of chemistry in Columbia College, D. C., a position which he retained for many years. In 1840 he was made an examiner in the Patent Office, the duties of that position being then extremely onerous. He continued his connection with the Patent Office till his death. For many years he devoted a large portion of his time to the study of the phenomena and evolution of electricity, having in view not only the scientific bearings of the subject, but its practical application as a *motive* power. In these investigations he contributed largely to the knowledge of electrical currents, which made the Atlantic Cable a possibility. He was the author of a treatise on electrical science, and of many papers on that and kindred subjects.

Rev. JOHN NEWTON BROWN, D. D., died at Germantown (Philadelphia), Penn., May 15, aged 65. Though for forty years an invalid, he accomplished a vast amount of intellectual labor. He was graduated at Hamilton Literary and Theological Institute (now Madison University) in 1823, and for the next fifteen years was engaged in the ministry—except two years, in which he was in Boston preparing the “*Encyclopædia of Religious Knowledge*.” In 1838, he was appointed Professor of Theology at the New Hampton Literary and Theological Institution, where he taught with great ability for six years, when failing health compelled his resignation. In 1849, he became Editorial Secretary of the American Baptist Publication Society, and passed the remainder of his life in editorial labors and authorship.

May 20.—Rev. GEORGE JUNKIN, D. D., LL. D., died at Philadelphia, Pa., aged 78. He was born in Kingston, Cumberland County, Pa., was educated at Jefferson College, where he was graduated in 1813. He studied theology under Dr. John M. Mason, in New York city, was ordained in 1818, and remained in the pastorate, though teaching and editing a paper a part of the time, till 1830; was Principal of Pennsylvania Manual Labor Academy, at Germantown, Pa., 1830–1832; President of Lafayette College, Easton, Pa., 1832–1841; President of Miami University, 1841–1844; recalled to the Presidency of Lafayette College, 1844–1848; President Washington College, Lexington, Va., 1848–1861, when the secession of Virginia compelled him to leave the College and his home and property. From 1861–1868 he was Professor Emeritus of Lafayette College. He was the author of numerous works, most of them on theological topics.

Rev. GEORGE RAPALL NOYES, D. D., died in Cambridge, Mass., June 3d, aged 70. He was fitted for college at Newburyport, Mass., entered Harvard College, in 1814, and was graduated in 1818 with high honors. After his graduation, he taught the Academy at Framingham for a year, and then entered the Divinity School, where he was graduated in 1822. For the next five years he remained in Cambridge as private instructor and College Tutor. In 1827 he became pastor at Brookfield, Mass. Thence he removed to Petersham in 1834, and in September, 1840, entered upon the duties of the Hancock Professorship of Hebrew and the other Oriental Languages in Harvard University, in which he continued till his death. He was also, from 1846, a Professor of Sacred Literature in the Divinity School. He was regarded as one of the best Hebrew and Greek scholars in the country, and was well versed in other Oriental languages.

June 9.—MARVIN MANVILLE MARSH, M. D., died at Carson, Ohio, of injuries received from being thrown from his carriage. He was a graduate of Hamilton College, Clinton, N. Y., class of 1836; was Principal of an academy at Manlius, N. Y., for some months, then of one at Eaton, N. Y., for four years. He was graduated M. D. from Albany Medical College in 1841, practised medicine for two years, when, being compelled by severe illness to abandon his profession, he returned to teaching in Onondaga County. He was appointed by the Sanitary Commission its Chief Agent and General Inspector in the Department of the South, in 1863, and gave himself to its work with great zeal up to the close of the war. He was then for some months at the head of the Lincoln Home in New York. He remained in New York till 1867, when he removed to Carson, Ohio. He was appointed a professor of Applied Chemistry in the Rutgers Female College, New York, but never entered upon the duties of the professorship.

THE VENTILATION AND WARMING OF SCHOOL-HOUSES.

II.

THERE have been many school-houses built within the last few years, in which great reliance appears to have been placed on contrivances for artificial ventilation. A great difficulty with most of these contrivances is their entire inadequacy. They seldom have more than one-tenth the capacity necessary to accomplish the object for which they are designed. It seems desirable, therefore, for the present, and until we can bring our artificial arrangements much nearer perfection, that we should rely more upon opening doors and windows at frequent intervals, for thoroughly purifying the air of class-rooms.

There are many conditions of the atmosphere—as, for example, in warm, still days—when it is quite impossible to provide substitutes equal to window-ventilation. On the other hand, there are many days during which the condition of the atmosphere renders it very improper to have the windows open during school-hours; therefore our arrangements for artificial ventilation should be so perfected as to be entirely sufficient on such occasions.

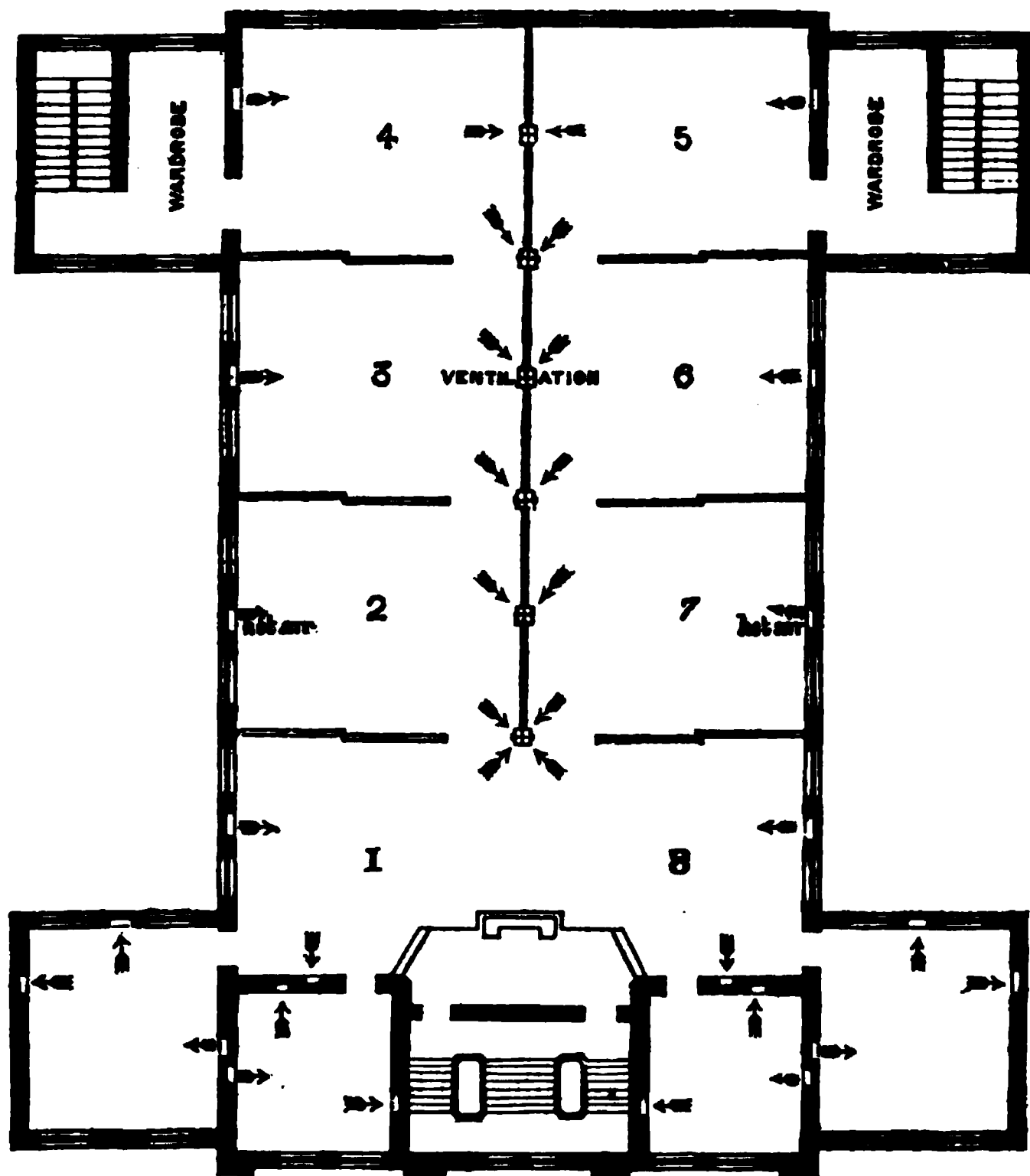
The subjoined cut represents the plan of the second floor of Public School No. 9, Brooklyn—an elegant new school-house facing Prospect Park. This building has been selected for examination, because it is one of the latest, and also because it expresses what are thought to be the most advanced ideas on school architecture now generally before the public.

By reference to the plan, it will be seen that there are eight class-rooms in the main building, separated by movable glass partitions. These partitions being partially removed, the several rooms are turned into one room for united exercises, as when the school is assembled in the morning. At other times, the partitions are drawn, dividing the floor into seven separate class-rooms, the eighth and first being used for two classes without dividing partition. Six of these rooms have openings to the external air only on one side, and four are bounded on the other three sides by class-rooms, generally crowded and necessarily more or less foul.

Now, every school-room ought to have, if possible, external windows on four sides for the admission of light, air, and the purifying and vivifying rays of the sun. If there is a blank wall on one side, it is bad; if on two sides, it is worse; if on three sides, it is very bad indeed. But what shall we say of a room hemmed in—not by three blank walls merely—but *by three other foul rooms!*

If we could see the fetid, poisonous air oozing through the cracks from

one room to another, and fully realize the fact that the flushed cheeks and throbbing temples of the children and teachers are caused by their breathing the foul air; that the children and teachers, thus confined, are being subjected to the same kind of torture, only in a little milder form, as the victims of the Black Hole of Calcutta,—I say, could we fully comprehend the actual reality as there existing, we should involuntarily exclaim *horrible!*



PLAN, SECOND STORY, SCHOOL-HOUSE No. 9, Brooklyn, N. Y.

This system of dividing a large assembly-room into a number of small class-rooms by glass partitions seems to be a favorite plan in many places. But can it be possible that the advantages to be gained by the few moments' united exercise in the morning, or the gratification of the pride of the school directors in seeing at one glance so large a number of children confided to their tender care—can these advantages counterbalance a fraction of the suffering and ill-health produced by this system of crowding together such large numbers of children? especially when the evil of overcrowding is again greatly aggravated by the cross-partitions in both direc-

tions, which so completely cut off all through circulation of air. It does seem as though the objections to this plan are such that its adoption cannot be too strongly condemned. There may be a possibility of contriving artificial arrangements for ventilation so perfect as to overcome these objections, yet there is scarcely a probability of its being done.

Let us examine the arrangements in this building for ventilation, and also for warming, as these two subjects are closely connected.

The building is warmed by cast-iron heating surfaces, placed in the cellar, and filled with steam at a low pressure, never exceeding three pounds. The heating chambers are placed around the exterior of the building, and immediately under each room to be heated. The external air is brought directly through the outer wall and under each "stack" of heaters; thence it rises through or by the heating surfaces, and, being warmed, ascends by separate pipes in the outer walls to each room. One register lets in the warm air near the floor; and another, placed about six feet high, allows it to flow in above the children's heads. As far as the arrangement of the heating surface is concerned, it is superior to that in a large majority of our school-houses. The placing of the heated pipes on the outer and colder sides of the room instead of on the interior and warm side, is an excellent arrangement. There will probably be but little difficulty in getting all the warmed air required (and of a quality above the average) even in the coldest weather. The great defect in the heating is that there are no hot surfaces in any of the rooms for direct radiation. All the air poured into the rooms must therefore be hot enough to compensate for the coldness of the walls and windows. The great disadvantage of this system of heating, which compels the occupants of the rooms to breathe a debilitating, dog-day air, was discussed in Part I. of this series of articles.

The provision for artificial ventilation, in the building under consideration, consists in two openings on the interior side of the room, with a pipe for the escape of the foul air running up inside the centre partition.

The air from these various rooms is collected in the attic by numerous pipes, and is carried through the roof by two ejectors, each about three feet in diameter. The area of a section of these pipes is a fraction over seven square feet, or fourteen square feet for the two. As there is no extra heat in any of these ventilating ducts, the average velocity of the foul air in passing through can scarcely average more than two hundred feet a minute, especially on mild, damp days, when there is but little motion in the external atmosphere. Fourteen square feet of outlet would discharge at this velocity twenty-eight hundred cubic feet of air a minute—or *two and one-third cubic feet each* for twelve hundred children.

Now, as we breathe about a quarter of a cubic foot of air a minute, and the exhaled breath contains about one hundred times the amount of

carbonic acid that there is in common air, the breath of one person will saturate a constant supply of twenty-five cubic feet a minute, with double the quantity of carbonic acid that is contained in pure air.

This certainly is quite as much of other peoples' breath as it is wholesome to breathe. Add to this the exhalations from the surface of the body, and it will be seen that a constant supply of thirty cubic feet a minute for each occupant of a room is none too much. To be sure this would only be about twelve times the amount allowed in this school-house, but the manner of distributing the supply has a great deal to do with its efficiency.

As will be seen, by reference to the plan, the air of each room is let in at two points, the highest but a few feet above the floor and discharged at two, both at the floor. The children sitting close to these outlets get the concentrated foul air of the others. But suppose the room becomes insufferable (as it soon must if depending on artificial ventilation alone), and the windows are lowered to let in fresh air; this cold air, being heavier, falls to the floor; and flowing along over the feet of the children to the outlets, keeps the floor and the feet cold, without rising so high as the zone of respiration. There should be some arrangement made in schools thus ventilated, to enable the scholars to breathe through their feet; or if they could be taught to sit on their heads, it would be a good arrangement, physiologically.

Although well-distributed outlets for the escape of the foul air from the floor of a class-room is of great importance, yet there is a large portion of the time in which the relative conditions of the contained air and that which is entering, are such as to require the escape of the foul air from the top of the room. In cases like the building under examination, where the whole heat is derived from currents of warmed air, these upper openings must be closed at times to prevent the too rapid escape of the heated air. But it seems to me to be possible to have the walls and floors of a room so warmed that the upper ventilators as well as those at the floor might be kept open at all times. A steam radiator or a stove under each window would assist very much in accomplishing this desirable result.

“**PHYSICAL and Intellectual Development of Youth by Electricity**” was the subject of a paper lately read before the British Academy of Medicine. From the fact that vegetation is quicker and richer in its growth when electrified, than when left to nature, the author held that a similar result might be obtained in the animal kingdom. He instanced five children, ranging in age from four to sixteen years, who, through the application of electricity, attained a remarkable development, both physical and intellectual. It would be a good plan to try the experiment in some of our schools—beginning with the teachers.

THE ADVANTAGES OF GREAT CITIES FOR PROFESSIONAL STUDY.

IN choosing a place of education, whether college or professional school, the advantages of different ones are so evenly balanced, that the decision, in most cases, is made from purely accidental reasons. Intrinsically, there is not a very wide difference among our colleges and our professional schools. With rare exceptions, they are modelled on the same plans, pervaded by the same ideas, officered by the same class of men, and turn out the same average of students. Now, since this is so, it is fair for us to compare their merely external advantages, which make a difference among them well worth considering.

We may assume that for a college where the students are not yet mature, and where the studies can be pursued easily enough with the aid of text-books and a moderate library, the best location is in a country town, apart from the distractions and temptations of city life. But the same argument will not hold good with regard to professional schools. The students are now men, able to take care of themselves, if they ever will be. Moreover, they are just at that age when young men wish to and ought to see life. Residence in a great city is the next best thing to foreign travel. It does much toward making a man cosmopolitan, toward wearing off the rough provincialism and the rawness of youth that are apt to cling to the average student. And this a great city does, even if he merely lives there and goes about his business with little thought of his surroundings ; and far more does it do this if he takes pains to get all the civilizing and refining influences that he may have in a metropolis. He meets a great variety of men. He probably will see something of all grades of society, and something of many nationalities. He learns, too, that he is a very small atom in the tide of humanity that ebbs and flows all around him ; that his ideas, his opinions, his very existence, are of very small account after all. In short, he gets the conceit taken out of him amazingly, and begins to get that true self-knowledge which is the beginning of all wisdom.

Moreover, in the intense life of a great city he learns to work rapidly and effectively. Truly, if "fifty years of Europe" is better "than a cycle of Cathay," a decade of New York is worth a century of "Sleepy Hollow:" there is more real work done. The impulse obtained in two or three years of active city life may last a lifetime. Even trade, usually so narrowing to the mind, becomes a liberalizing influence in a city like New York, by the scale on which it is conducted and the amount of enterprise and capital required to manage it.

Every great city is a centre, not only of business activity, but of intellectual life—at least of a certain kind. Usually, even the highest intel-

lectual life, that which produces literature, is found in a metropolis. But even where this is wholly or partially deficient, there is a certain amount of intellectual life of the lower kinds. The city is the centre of news, and therefore of newspapers: of politics, and therefore of public assemblages. Great men, and notorious men, can be seen on the streets. We need not trust to reports so much, for we can see many things with our own eyes. Many illusions are thus dispelled, many errors corrected. Books and Magazines circulate more freely, libraries are more easily reached, and better ones. Lectures are more frequent, and all the machinery of intellectual life runs more rapidly and with more force. And for the study of the fine arts there is scarcely any opportunity except in great cities.

There are great and peculiar advantages of city life ; but there are in addition certain special advantages possessed by professional schools in a great city. Our professional schools hold the same relative position to our colleges, that the universities of France and Germany do to their colleges and gymnasia. And it has been found that universities thrive best in great cities. All the important universities founded in this century, Berlin, London, Christiana, and many of the most flourishing older ones, like Paris, Edinburgh, Dublin, Copenhagen, Vienna, are in great cities. The same reasons that hold in Europe, hold here. A university without a library, is like a man without a head ; and a good library can be collected more easily in a metropolis than elsewhere. Here, also, are to be found other great libraries, that supplement the deficiencies of the university collection. Again, in a great city, there are collateral advantages for a practical acquaintance with each of the professions ;—for the lawyer, in the courts held almost daily ; for the clergyman, in the great preachers and great charities ; for the physician, in the great hospitals and frequent clinics. But more than all these, the professors are almost sure to be superior men. A country university may keep one great man : a city university will be sure to have several. For, allowing other things to be equal, which is not the case usually, the intellectual society of the metropolis, its superior advantages for work in any department of thought, and the wider opportunities for fame and usefulness, continually draw off the great thinkers to the metropolis, and away from the country universities. Here, as elsewhere, the tendency of our age is toward the cities—centripetal, not centrifugal.

THE presence of science side by side with literature, is a protest against the narrowness which overvalues one branch of learning and despises others. Co-operation is necessary to secure a happy co-existence of these studies. Each alone becomes conceited ; and conceit is the most fatal enemy to progress.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.**SECTION 3.—The Process of Filtering—Crystallization—Sublimation.**

THE separation of minute solid particles from a liquid, is accomplished by *Filtration*. The filter may be of paper, cloth, asbestos, or loose fibres of tow or cotton. Paper is generally employed, and is used as shown in the diagram.

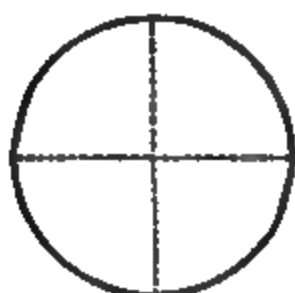


Fig. 1.



Fig. 2.



Fig. 3.

Filter-papers of proper material and already cut into circles, are to be obtained at the chemists.

To prepare a filter for use, fold one of these circles twice, on the lines indicated in the first figure.

It will then form a quadrant having four thicknesses, as shown in the second figure. Open it so as to leave one thickness on one side and three upon the other, and place it in a funnel: wet the filter with rain or distilled water before using, especially if the experiment is a chemical one of any importance.



Fig. 4.

In pouring the liquid to be filtered into the funnel, hold a glass rod against the edge of the pouring-vessel, so that the liquid, which will run down the rod, may be directed against the side of the filter. (See figure 4.)

The funnel may be supported by a thin piece of wood or of card-board, through which a hole has been cut a little larger than the tube of the funnel.

If the funnel is supported by the receiving-glass itself, care must be taken that the latter is not closed by the funnel so as to prevent the escape of the air which is displaced by the filtered liquid. A bit of stick or string between the edge of the receiving-glass and the funnel is sufficient.

Exp. 12. Mix with water some finely divided, insoluble solid (a pulverized colored crayon forms a good example), and filter as directed above.

When a heavy precipitate has been allowed to settle, the liquid above it may be drawn off with a syphon ; or if considerable care be used, it may be nearly all poured off without disturbing the precipitate. This process is called *decantation*.

Crystallization.

Most solutions when exposed to a gentle heat, or even to the atmosphere, gradually lose the solvent by evaporation, and the solid in consequence returns to its original state.

If the circumstances are favorable, the atoms of the solid will arrange themselves in certain regular forms called *crystals*.

This process (called crystallization), is daily resorted to by the chemist for various reasons ; among which are :

1st. It brings the substance to a form in which its degree of concentration is known, and from which a solution of definite strength may be prepared.

2d. The solid form is the most convenient one for storing or transporting.

3d. Chemical salts are obtained in their purest form by crystallizing them. For when different substances are in solution together, they crystallize separately upon evaporation. Hot saturated solutions will generally deposit crystals as they cool. The size of the crystals depends very much upon the time occupied in forming ; the slower the process, the larger and the more perfect are the crystals.

The cautions to be observed in this department of experimental chemistry may be learned from the following examples.

Exp. 13. Make a hot saturated solution of alum. This is accomplished by adding the alum gradually to boiling water until a drop of the solution, tried upon a slip of glass, crystallizes as it cools.

Set the solution aside, and suspend in it a twig or nut, or wire ornament, around which some cotton or worsted has been closely wound. In twelve hours' time the suspended objects will be closely covered with crystals of alum.

A small basket, made by winding covered bonnet-wire about an egg or a nut, is a good object for the experiment. Care must be taken that when suspended it is covered by the solution and does not touch the side of the vessel.

Exp. 14. To make large crystals requires much careful manipulation and patience ; but good results may be obtained by the following method, generally known as Le Blanc's :

The salt to be crystallized is to be dissolved in rain or distilled water,

and evaporated until it is ready to crystallize on cooling. Set the solution aside until it is quite cold. Crystals in a mass will be formed at the bottom. These are of no account in the present experiment except as they are needed for re-dissolving. Pour off the liquid into a flat-bottomed vessel,—a plate of a suitable size will answer. Crystals will soon begin to form at some distance from each other. Select the most regular of these and transfer them to another flat-bottomed dish, and place them well apart. Pour over them a fresh saturated solution, prepared as at first. Turn each crystal over with a glass rod at least once a day, so as to expose each of the faces in turn to the action of the liquid; for the face upon which the crystal rests does not receive any addition. When the crystals have attained considerable size, those which are selected for further growth should be removed to other plates—each crystal in a separate vessel,—covered with the liquid as before, and each turned with the glass rod several times a day.

By continuing this treatment, they may be obtained of almost any desired size. If at any time during the process the angles or edges of the crystal become blunted, the liquid should be immediately poured off, and a fresh saturated solution substituted.

Exp. 15. Mix together solutions of sulphate of iron, sulphate of copper, sulphate of soda, sulphate of magnesia, and alum. Evaporate slowly by a gentle heat, or set the mixture aside to crystallize spontaneously. When the liquid has disappeared, observe that each salt has appeared by itself, and that they exhibit several different forms—the salts of iron and copper having a common form, the magnesia another, and the alum still another.

Exp. 16. To prepare small crystals to be observed with a magnifying glass or microscope.

Place a single drop of water upon a slip of glass which has been carefully cleaned. In the drop put a small crystal of sulphate of copper, and with gentle pressure rub it about so as to spread the liquid over an area of a quarter or half an inch. A single minute is sufficient time for the preparation of this solution. Remove the crystal, and place the glass slip under the microscope. The crystals will form first on the edges.

[A compound microscope is necessary for the full enjoyment of this experiment, and the process may be repeated to advantage with a great number of salts. Nitrate of potash, bichromate of potash, oxalate of ammonia, and sulphate of nickel, giving particularly fine results.]

For a lecture-room experiment with a magic lantern, the above experiment, slightly modified, may be shown to advantage. On a plain magic lantern slide, put, by means of a brush or sponge, a warm solution, nearly saturated, of chloride of ammonium, and exhibit as a picture by means of the lantern. If the solution is of the right density, the crys-

tals will spread gradually from one side of the plate to the other. Oxalate and nitrate of ammonia are also good salts for this experiment.

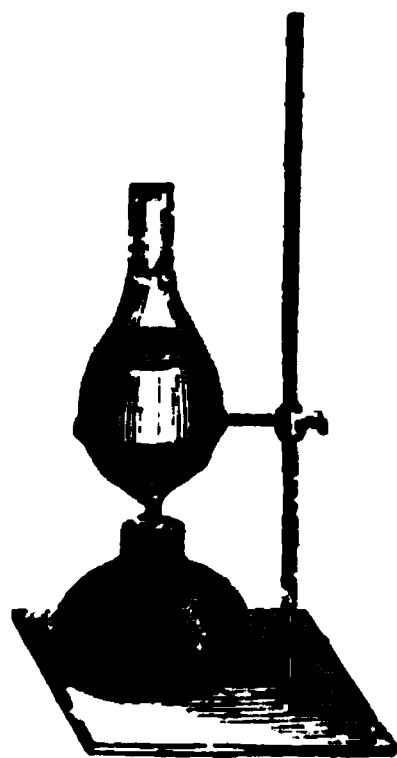
Exp. 17. The instantaneous change from liquid to solid form is exhibited as follows.

Prepare a solution of sulphate of soda, carefully saturated at the boiling-point. It is best done in a flask, which should be nearly full when the solution is complete. Remove it while boiling, and immediately cork the flask air-tight.

When quite cold remove the cork, and the contents of the flask, except a few drops of "mother-liquor," will at once become solid. If the liquid should fail to solidify, drop in a small bit of the sulphate; when the crystals will be seen to group about it as a nucleus, and extend rapidly in all directions.

This experiment may be performed in an open-mouth vessel by employing a layer of oil, poured on the top, instead of corking as before. When cold, drop in a crystal of the sulphate, and the solution will immediately solidify.

Inexperienced performers should use care in boiling solutions in glass or porcelain vessels. When the flask or retort containing the liquid is placed securely on the stand ready for heating, apply the flame cautiously at first. Holding the lamp in the hand, direct the flame by a rapid circular motion around the bottom of the vessel, so as to raise all parts at the same time to a pretty high heat. After a minute or so, place the spirit-lamp directly under the flask, and so near to it that the flame shall spread over and around the whole lower portion. The experimenter should bear in mind the fact, that the hottest portion of the flame of a lamp is at the uppermost point; and when a flask is so placed that the tip of the lamp-flame just reaches it, a breakage is likely to follow. A safer but slower way to heat glass vessels, is to set the flask in a small sheet-iron dish containing sand, to which the heat is applied without the above precaution.



Exp. 18. Prepare a strong solution of sugar, not quite saturated, and set it away in a shallow dish, so that crystallization may be slow. Stretch some threads across from side to side of the vessel, just dipping below the surface of the syrup.

The crystals, which will be deposited on the thread, will be a quarter of an inch or more in diameter, and will be identical in composition with the "Rock-candy" of the shops.

Exp. 19. Precipitate some iodide of mercury, as in *Exp. 9*. Let it settle to the bottom of the glass; pour off the liquid and use the wet

precipitate as you would paint, applying it thickly to heavy white paper, or card-board. A spot an inch in diameter is large enough. Dry it by the spirit-lamp. Now heat the paper strongly but cautiously on the back side, against the painted spot. The red spot will turn light yellow. Draw the point of a pin, a pencil, or a knife across it, bearing on pretty firmly, and observe that a red mark is the result. If several such marks are made, and the paper laid aside for a day or two, the red color will be found extended over the whole space.

The change of color is attended with a change in the form of the minute crystals.

Sublimation.

Some solids, when subjected to the action of heat, assume the condition of vapor without passing through the intermediate liquid condition. Such vapors are promptly condensed by contact with any surface slightly cooler than the temperature at which they were released. The process is called *sublimation*, and is often employed in case of those bodies capable of being sublimed, as a means of separating them from impurities.

Exp. 20. Put a few small particles of iodine in a dry flask, and warm the whole globe of the flask by moving it about over the flame of the spirit-lamp so as to expose in turn all sides of it; then bring the flame to bear upon that point where the grains of iodine are, and they will immediately be converted into a heavy violet vapor. A fine crystalline deposit will at once collect on the neck of the flask. These crystals may be made of a visible size by slightly wetting the inside of the neck before subliming. A little alcohol will wash the deposit off, and form a tincture of iodine.

Exp. 21. Place a small piece of camphor-gum at the bottom of a test-tube, and apply a gentle heat. It sublimes readily, and may be caught upon a cooler surface presented in the upper part of the tube.

Exp. 22. Iodide of mercury, formed as in *Exp.* 9, filtered and dried, may be sublimed in a test-tube; the color changing from vermilion to yellow at the instant of changing to vapor.

Exp. 23. Place a little iodide of mercury in a watch-glass, and cover it with another similar glass, inverted. Apply heat to the lower glass until the iodide sublimes and appears as a yellow crystalline deposit on the upper glass. Remove the upper glass, and rub or bruise the yellow crystals until they become red again, when the experiment may be repeated.

Several other substances may be sublimed, at a little higher heat than the foregoing substances require. Among the number are indigo, sulphur, calomel, and benzoic acid.

MARCH, 1869.

OUR EDUCATIONAL PERIODICALS.

HAVE we an Educational paper or Magazine that is worthy of the cause it professes to represent?

Put the question to your nearest neighbor, or the next man you meet on the street. The chances are it will take him by surprise. Very probably he can tell you all about the representative papers of the principal political parties, of the various religious sects, of the "whiskey ring," or any other prominent "interest"—except education. Of that, "why! really, it's out of his line. Ask Professor Jones."

[Next to personal liberty, popular education is the interest nearest the heart of the American people!—Vide any popular oration, Governor's message, or other State paper.]

If Professor Jones is the enterprising head of the village high-school—Jones University, it is commonly called—he will probably smile at so absurd a question, and assure you that we can boast of quite a number of very excellent and able educational periodicals, though closer questioning may discover that his actual knowledge of them is none of the fullest.

The gentleman who spoke so eloquently about the march of intellect, at the University Hall the other evening, will tell you the same. So indeed will almost any one, who imagines that, in this land of free-schools and popular education, every educational ought-to-be is. So will *not* any one say who knows. Painful and humiliating as the truth is, it is the truth, that our educational periodicals are, one and all, trivial and mean compared with what they ought to be, to correspond with the interest which the American people pretend to feel in Education. Whether or not they correspond with the actual interest felt, we leave for others to say.

We question whether any one has studied this portion of our current literature more carefully than ourselves; whether any one has more

thoughtfully considered the public needs which the right sort of an educational journal would supply ; whether any one has more earnestly striven to make an educational periodical that should be worthy of its name and purpose ; and consequently, whether any one more keenly appreciates the difficulties which prevent, or have thus far prevented, the publication of such a periodical. This in no spirit of boasting ;—but as an assurance that our sweeping condemnation of American educational periodicals (our own not excepted) is not to be taken as the assertion of a captious disposition, or the flippant judgment of one who condemns without knowledge.

We would not be understood as saying that our educational periodicals are intrinsically worthless. Far from it. The worst is worthy of more encouragement than the best has received. Compared with each other and with other periodicals of the price, some are indifferent, some good, some excellent. But compared with our idea of what an educational periodical ought to be, adequately to represent the important interests involved, they are all weak and commonplace and dull. Not one is what it should be, what all should be.

The poverty of our educational literature is indeed a matter of national reproach, especially to a nation that professes to be doing so much and so well for Education. How shall we account for it? By charging the people at large with indifference to matters educational? These are professional publications, the people might reply. They appeal not to the general public, but to a class—to teachers, not to parents. Even so ; and a sorry comment it is on our boasted interest in public education, to be compelled to say that the parents of the land are less interested in whatever tends to promote the right education of the children, than are their hired servants, the teachers. The remark may be out of place, yet we cannot forbear to make it, that the increasing disposition of American parents to shift the education of their children upon the State is in danger of proving a greater evil, than the public schools can prove a blessing.

Since our educational literature is produced mainly by teachers, and is designed, ostensibly at least, to meet the wants and suit the taste of teachers, let us grant that teachers are mainly responsible for the inferior quality of the article. But which class of teachers? There is, first, the better class of teachers—those who read and think and have a good degree of literary taste and culture. These, it would be natural to

suppose, would give tone to the literature of the profession. But they do not. Some few of them contribute to the different educational periodicals; but their articles seem to be aimed at the great body of teachers several grades lower down in the literary and professional scale, oftener than at their equals. As a class, the teachers of this grade are not represented by our educational literature. They are too few in number perhaps to sustain a periodical designed expressly for them; and the greater part of them, thinking that they have no need of professional reading, certainly not of the kind commonly laid before them, hold themselves aloof from educational papers; thus, as we said before, they exert no considerable influence on the character of the professional literature.

At the other extreme of the professional scale is another and much larger class of teachers, composed mainly of boys and girls just from school, or perhaps never having enjoyed the advantages of schooling to any extent worth mentioning. This is a promising class; but, for the time being, it is immersed in the mysteries of parsing, and perplexed by the intricacies of cube-root. Its members have yet to acquire the elements of the knowledge they are to convey to their pupils. Not yet free from the thralldom of text-books, they are neither producers nor consumers of educational literature, and consequently are not to be held responsible for the character of the article supplied.

Between these two extremes lies the great body of teachers. These may be roughly divided into three sub-classes, as follows: (1) Leading Educators; (2) Educators who are led; and (3) Educators who neither lead nor go. Practically, the second class includes also the first (the latter being led by the book-agents, the former by the latter), while educationally the third includes the majority of the entire body. The last-named sub-class, *les rois fainéants* of the schools, are numerous beyond computation; but being merely dead-weights on the profession, they are as little to be counted on for the support of professional publications, or held responsible for their character, as are the books and benches of their respective school-rooms.

The second sub-class, perhaps, more than any other, is directly influential in keeping the educational periodicals of the country low in grade and trivial in character. Constituting the chief market for this part of our current literature, its wants largely determine the character and quality of the article supplied. As a rule, teachers of this class are not literary.

The leading educator's essay, at a county institute, is their ideal of literary effort. If they commend a published article, it is sure to be one put in under protest, with serious misgivings whether it ought to go in at all. As a general thing they want something "practical," or something funny. The funny, according to their taste, is something of the comic-almanac style; and the practical, something that somebody practices. Their teaching being a hodge-podge of "methods," the thing that suits them best is a detailed account of this man's method in spelling, Prof. So-and-So's method in Arithmetic, or Doctor Somebody-else's method in Grammar. Principles they have no stomach for; and the moment a writer transcends the commonplace, they regard him with suspicion. They subscribe for educational periodicals, not because they are particularly fond of reading, but because they have great regard for the Leading Educator; and the latter assures them that it is the duty of every teacher to take a professional magazine—particularly the one for which the Leading Educator is just then acting as agent. Let us not be severe upon this class. It does not furnish the highest possible market perhaps, yet it furnishes the widest *paying* market yet discovered for educational periodicals.

There remains the first-named sub-class—a class which threatens to absorb all the others. Are its members to blame because our average educational literature is commonplace and dull? Perish the thought! The educational world would cease to revolve should the Leading Educator become extinct, and educational papers would die outright. These chiefest patrons and promoters of learning never cease to encourage professional journals. They take all that are sent to them. They are "always glad to say a good word for your excellent periodical." It would appear to be absolutely necessary to their existence; and they to its. But just hint to one of them that it would be the proper thing for him to become a subscriber—a *paying* subscriber—and you have made a life-long enemy at once. What! pay for your paper? The idea is preposterous. You ought to pay him—for encouraging it.

It is proper to state just here, that the title "Leading Educator" does not imply, as the uninitiated might suppose, that the possessor has rendered distinguished service, or indeed any service, in teaching. It is a purely honorary title, conferred chiefly by publishers upon those who write commendatory letters concerning their books. Sometimes, however, the title is fairly won by valiant service in local school-book wars.

It is customary among "Leading Educators" to confer upon each other the nearly equivalent title "Eminent Instructor"—a title which ordinary teachers regard with great reverence. As a general thing, Leading Educators enjoy also, and commonly by mutual brevet, the additional title, *Professor*. But this is a digression; or would be, were not an understanding of this class of "educators" essential to a right comprehension of the causes which keep down the character of our educational literature, and pretty much everything else connected with the public schools.

We have not mentioned the professors, properly so called, because, even more than the first-named class of teachers, these count themselves out of the list of those for whom educational periodicals are designed. It is true, there is little in our average educational literature that is worthy of their time and attention: nevertheless, it is much their own fault that it is so. The subject of education is certainly not unworthy of their thought; and the fact that others treat it unworthily, does not excuse them for neglecting to treat it at all. It is, indeed, little to the credit of this portion of the teaching profession that it influences so slightly the character of the professional literature. Not only themselves, but the whole body of inferior teachers, would be greatly benefited by a periodical such as our first-class college professors, together with teachers of corresponding rank in the lower grades of schools, might sustain: and nothing would help more to remove the stigma which now rests upon American educational literature.

The great trouble with our educational periodicals seems to be mainly this: they have been conducted chiefly for and by the noisy portion of the profession—teachers and school-conductors who imagine themselves as riding and guiding the foremost wave of educational progress, when in fact they are but as straws cast up into momentary prominence, by forces over which they have but the slightest influence. Fancying that they are leading educators in reality, they push themselves forward on all occasions, as representatives of the educational thought and action of the country, only to show how sadly they are lacking in professional ability and literary culture. The natural result has been so to disgust the better part of the profession as to turn their contributions into other channels, and thus to create a general impression among intelligent people that educational literature is, practically, if not necessarily, synonymous with *trash*.

THE CLASH OF SYSTEMS.

PROFESSOR PORTER, of Yale, contributes to the *New Englander* for January an elaborate defence of the classical college-course, and what he imagines to be a crushing reply to the advocates of a less restricted curriculum. He styles the article, "The American Colleges and the American Public," meaning by the latter term "the tribunal before which the colleges are summoned to appear" to "give a satisfactory explanation and defence of their system of discipline and study."

"This tribunal," he says, "consists, first of all, of a limited class of lecturers and writers known as *educational reformers*, whose stock in trade consists of a scanty outfit of a few facts imperfectly conceived and incorrectly recited, in respect to the modes of education pursued in the middle ages. . . .

"Another portion of the public, who are so ready to prejudge the colleges and their system disadvantageously, is drawn from the very numerous and most respectable class of self-made men who have risen to eminence without a collegiate education. . . .

"Another important element in this varying and shifting tribunal, before which the colleges are summoned to answer, consists of the many graduates of these colleges, who have received little advantage from their college training, or are unconscious of the advantages which they have received in fact. . . .

The rest of the "tribunal" consists of others, "and these not a few, who were bent on self-improvement in their college-life, and were not unwilling to labor, whose want of success was chiefly owing to their very inadequate preparation for its studies;" and "some graduates," "who were earnest, laborious, and successful in their college studies, who are disposed earnestly to criticise the course which was prescribed, because it did not fit them more directly for the calling or duties of their actual life."

These are "The American Public!" These constitute the tribunal which presumes to be "both assailant and judge" of "The American Colleges!" And it is very easy for Professor Porter to put to shame so ignorant and presumptuous a tribunal. But is not Professor Porter aware that the tribunal he describes is not the true one? or at best is the true one less its strongest members—the very ones who make it formidable? For instance, the actual "American Public" includes a goodly number of college professors who have enjoyed a classical training as thorough as Professor Porter's; who have had an experience in teaching the classics not inferior to his. Are none of these to be included among the advocates of modern studies? There are also quite a number who have sup-

plemented this professorial experience by that of the College President. Do all these side with Professor Porter?

The fact is, Professor Porter has a happy faculty of ignoring the real strength of his opponents, as well as the strong points of his opponents' arguments. With an air of great dignity and candor, he dodges the main question, and indulges in partisan tricks to an extent absolutely painful to one who wishes to see the different educational theories fairly tested, and approved or condemned on their merit, not according to their agreement or disagreement with anybody's system of philosophy.

Another example will suffice to illustrate Professor Porter's method of discussion. President White, of Cornell University, says, somewhere :

"When I was a student in one of the largest New England Colleges, there were over a hundred in my class. Of these, twenty or thirty loved classical studies, and could have made them a noble means of culture ; but these were held back by, perhaps, seventy, who dreamed, or lounged, or 'ponied,' or 'smouged' through—sadly to the detriment of their minds and morals. Consequently the classical professors—as good as ever blessed any college—were obliged to give their main labor to stirring up the dullards, to whipping in the laggards—in short, not to the thirty who loved their particular studies, but to the seventy who loathed them."

This Professor Porter quotes, and then goes on to say, in that supercilious style so often used by those who would appear to add momentum to their words by pitching them down from some assumed high moral or intellectual vantage-ground :

"The Cornell University will not have things so ordered ; it will 'indulge in no tirades against the classics.' 'It will have the best classical professors it can secure—it will equip their departments thoroughly, it will not thwart them by forcing into their lecture-rooms a mass of students who, while reciting Greek, are thinking of German,' etc., etc. That is, President White would have us to infer that in his opinion, and, we believe there are many who agree with him, that 'the dullards' and 'the laggards,' the men who 'ponied' and 'smouged' in the classics, would have neither been nor done either if they had been allowed to study German instead of Greek, and that the majority of every college-class would study languages with alacrity and zeal, if only they were allowed to study German or French."

That a man of Professor Porter's ability could deliberately make such an inference from the words quoted, or from any words of President White's that we have seen, would be incredible if we did not know how apt the partisan spirit is to pervert judgment. We would not insult the reader by saying, what must be plain to the meanest intelligence, that President White would evidently have us infer nothing of the kind.

Given a hundred or five hundred students such as constitute our average college classes ; given also a single course of study which all must pursue, it makes no great difference whether the course be classical, or scientific, or what : a certain portion of the students will like the course, and will make good studies in it ; a certain other portion—and, judging from things as they are, it will not be a small one—will fail to be interested by those particular studies ; they will “pony” and “smouge,” and, while receiving little good themselves, will prevent the few earnest students from making that progress which they would make alone. Must we, therefore, infer that none of the “laggards” and “dullards” of our college classes would make good studies in anything ? So Professor Porter appears to think. Yet no one, certainly not President White, would claim that any course of study or any variety of courses, will insure good work from all who go to college. Blockheads are inevitable. But, while all are not likely to choose Greek, or Mathematics, or Chemistry, it is very probable, if not morally certain, that with several courses to choose from, each offering the same scholastic rewards for successful effort, the majority of students will select each for himself *some* course in which he will make as good studies as the few now do in the classics. A student is not necessarily an incurable dunce because he happens to dislike Greek.

One may admit, what is far from being proved, that the study of the ancient classics affords a better and broader culture than the pursuit of science or the study of the modern languages and literatures. The stubborn fact remains, that only a small percentage of modern students will receive this broad and excellent culture, or any considerable portion of it. What then ?

“An acre in Middlesex,” says Macaulay, “is worth a principality in Utopia.” Some few, we know, will strive for the principality ; but the many are so terribly utilitarian that they will work for the acre or nothing. Is it not good policy, then, to offer our students a choice in the matter ? Grant that many students will select what Professor Porter believes to be the inferior course of study ; yet it is not impossible that they will receive as desirable a mental culture in the pursuit of their favorite studies, as they would as “laggards” in studies that they loathe. And there is no reason to suppose that, with a variety of scholastic courses, a much greater number of students might not be induced to make good studies than when but one is offered, Prof. Porter to the contrary notwithstanding.

EDUCATIONAL INTELLIGENCE.

MAINE.—“We are nigh death’s door educationally—that is, in the country schools. Our vigorous towns and villages show signs of life and development: but outside of these, apathy, apathy, apathy.”

Such is the private testimony of the earnest and energetic Superintendent of the Common Schools of Maine. His official testimony is the same: “Excepting in the larger and more vigorous towns, as a State, we are behind the record of fifteen years ago in school matters. Our school-houses are no better—only half of them pronounced in good condition; our teachers plodding as ever, with no extra facilities for improvement, excepting the Normal Schools, which by no means counterbalance the loss of the County Teachers’ Institute, their pay not advanced with the increased cost of living; school inspection in no degree more thorough than formerly, parents exhibiting no increased amount of interest, while the actual percentage of average attendance in the public schools is less than formerly.” (Report 1868, page 5.)

That this is no exaggeration may be seen from the following table, copied from a “Comparative Statement” on page 65 of the Report.

	1868.	1858.	1867.	1857.
Whole number of scholars between 4 and 21.....	235,200	241,833	228,388	240,764
Number registered in Summer Schools	111,552	132,182	110,926	131,404
Average attendance.....	85,407	100,726	85,945	100,231
Number registered in Winter Schools	124,653	154,880	129,848	151,696
Average attendance	97,790	122,430	99,660	117,415
Number in Winter Schools not attending Summer Schools.....	19,714		20,780	
Average length of schools for the year.....	18w. 8d.	19w. 5d.	18w. 1d.	19w. 5d.
Number of School-Houses.....	3,719	3,932	3,792	
Number of School-Houses in good condition.....	1,977	1,923	2,065	1,881
Number of School-Houses built last year	93	124	79	149
Cost of same.....	\$372,774	\$66,729	\$233,581	\$114,000
Average wages of Male Teachers per month, excluding board.....	29 50	21 86	28 78	22 21
Average wages of Female Teachers per week, excluding board.....	2 94	2 13	2 71	2 10
Average cost of Teachers’ board per week	2 17		2 12	
Amount of school money voted.....	598,094 00	408,761 00	518,292 00	401,603 00
Excess above amount required by law.....		54,712 00	91,833 00	54,066 00
Less than amount required by law.....	30,506 00			
Amount raised per scholar.....	2 65	1 59	2 26	1 57
Amount paid for tuition in private schools, academies or colleges in the State.....	54,545 00	26,521 56	40,614 33	29,455 09
Percentage of average attendance to whole number..	.42	.47	.44	.48
Percentage of average attendance to scholars registered77	.77	.77	.76
Aggregate amount expended for schools.....	\$1,072,498	622,009 69	936,131 75	663,797 58
Amount of School Fund.....	261,112	149,083 48	244,121 58	196,346 54

On another page is given the census of “scholars” (meaning, evidently, the whole number of children and youth), between four and twenty-one years of age, for the successive years from 1858 to 1868. From 1858 to 1860, there was an increase amounting to 3,037. From 1860 to 1868, there was a constant, though variable, decrease amounting to nearly 20,000,—the largest diminution, 5,391, occurring in 1865; and the smallest, 419, in 1866. That there should have been a decrease during these years is not surprising; but it is surprising that the Superintendent

should overlook the very apparent cause of it. "Have we ceased to be a producing people?" he asks. "Are the vital forces expended in brain-labor, and lost to physical production?"—(a capital joke, that last, in view of the educational activity of Maine!) "Are the modern fashionable criminalities of infanticide and feticide creeping into *our* State community?" The Superintendent considerably turns over the matter to the statistician and sociologist; where, perhaps, we ought to leave it. But remembering the regiments of stalwart sons of Maine who went down to the war never to return, we cannot refrain from suggesting that their absence may possibly account, partially at least, for the decrease in the school population; and that the decrease is a matter for mournful pride to the people of Maine, rather than for self-condemnation, or charges of "fashionable criminalities."

The falling off of last year, 3,188, which seems to puzzle the Superintendent by its excess over that of the two preceding years, is not so surprising after all, when we remember the wonderful facility with which the later years of adolescence are skipt by patriotic young men during an exciting political canvass. The young men of Maine must be very slow and very honest, if some of the votes cast at the last election—the heaviest vote ever polled in the State—were not cast at the expense of the school enumeration. But giving speculative matters the go-by, there remains enough of indisputable fact to show that the common schools of Maine are declining, and have been declining for several years. The falling off in the "whole number of scholars" may be honorably explained, as an element of the sacrifice which Maine, in common with other northern States, made for the Union: the excessive falling off in the school enrolment and average attendance cannot be so explained. It points directly to the decreasing efficiency of the public schools; and more especially as private schools increase in number and efficiency during the same period of time. The extent of this excess may be shown as follows:

In the whole number of scholars, the decrease from 1858–68 was, 16,683.

In the number enrolled in summer schools, the decrease was, 20,630.

In the number enrolled in winter schools, the decrease was, 30,205.

In the average attendance, summer schools, the decrease was, 15,319.

In the average attendance, winter schools, the decrease was, 25,360.

The falling off in the school population is justly a matter to be regretted; but it cannot well be helped. The disproportionate decline in the efficiency of the schools can be helped. It is a matter, not merely to be regretted but to be ashamed of, and stopped.

There are several other points deserving of notice, which our space will not allow us to speak of at this time. Some of these may be learned from the table, for example, the condition of the school-houses, the decrease in the length of school terms, the meagre pay of teachers, the irregularity of attendance, etc. These, with the remedies proposed by the Superintendent, may be taken up hereafter.

VICTORIA.—The report of the Board of Education, 1867–68, enters very fully into the subject of attendance in National, Denominational, and Common Schools, giving separately, in certain cases, the figures for town schools, country schools, and "gold-fields" schools. The percentage of the population, between five and fifteen years of age, in actual attendance at school was 55.68, or five out of nine. The common schools are open,

on an average, 230 days in the year ; and the average attendance of pupils enrolled last year was 132 days—a very favorable attendance compared with other English-speaking countries. In England, the average number of days attendance does not exceed 129 ; in Canada it does not reach 100. The average daily attendance in Victoria was a little short of half the number enrolled. The supervision of the schools seems to be thorough, involving a pretty close general survey of the premises, apparatus, discipline, method, and so forth, as well as examination in regard to studies. The teachers are examined as in England, and certificates of competency are awarded. More women than men are employed as teachers. The local contributions toward the payment of teachers' salaries reach nearly one-third the whole amount, the rest being contributed by the government. Several cases have occurred in the colony in which teachers have been found "guilty of falsifying the rolls," rendering themselves liable for "wilful and corrupt perjury." In each case proved, the guilty teacher was suspended for five years. In this the Victorians are quite the antipodes of New Yorkers. We offer a premium for falsifying rolls, by grading the Principal's salary according to the number of pupils reported in average attendance.

CURRENT PUBLICATIONS.

IT is a pleasant task to notice a pleasant book. Such a book is Prof. Day's recent work on English Literature.¹ It differs from other works on the same subject by introducing the student to English literature *as a growth*. Specimens therefrom are taken from certain marked stages, as represented in the writings of the best authors. Nor are these mere fragments ; they are generally, and so far as was practicable, complete artistic productions. These are presented in the orthographical form of the originals,—a very important fact in studying the philology and the growth of a literature,—and accompanied by notes explanatory, etymological, grammatical, etc. Part Second treats of the formation and growth of Language, and of the various departments of language and literature. The plan is original, and the work seems well calculated to serve a valuable purpose.

There is no lack of treatises on the theory of composition. But mere theory is not enough. Young persons, in order to acquire the art of composition, need to be taught practically both how to obtain ideas and how to express them. One of the best elementary treatises that we have seen, having this end in view, is now lying before us.² It contains 140 exercises, in which subjects are exhibited in outline, with here and there an outline filled out ; not only showing how subjects may be treated and thought awakened, but giving work to be performed by the pupil himself. If we were to object to any part of the volume as a text-book for

¹ An Introduction to the Study of English Literature. By HENRY N. DAY. New York : C. Scribner & Co., 1869.

² Outlines of Composition. By H. J. ZANDER and T. E. HOWARD, A. M. Boston : Robt. S. Davis & Co., 1869. 12mo, pp. 203.

beginners, it would be to the language employed, much of it being above the range and comprehension of ordinary children. Thus, in the very first exercise, we find such words as "rectangular," "utility," "renovated," "ventilated," "vitiated," etc. In models for children, such words are out of place, and seem ridiculous enough. Still, the *plan* of the work is good; the idea on which it is formed is correct; and, excepting upon the point which we have referred to, we should think the book well adapted to aid beginners and advance them rapidly in the acquirement of the art of composition. To say the least of it, it is an effort in the right direction, for which the authors deserve the thanks of teachers and scholars who may make trial of their book.

Trench's *Lectures on the English Language*¹ come to us, in a sixth edition, revised and improved. Since the appearance of the first edition, a number of other and valuable works pertaining to the subject have been given to the public. Of these, the author has availed himself, and thereby materially enhanced the value of his treatise. The American publishers have issued the volume in a very neat and attractive form.

The reformation of youthful criminals is one of those important subjects that, within the last half-century, have claimed the attention of some of the purest and noblest minds of Europe and America; and the history of this movement, though comparatively brief, forms one of the most cheering and instructive chapters in the annals of modern times. Dr. Peirce's work on this subject² is a volume replete with information as well as of absorbing interest. After glancing at the labors of Mrs. Fry, John Falk, Count Adelbert, and others in Europe, the author enters upon the history of the rise and progress of the movement in this country, leading to the establishment of the New York House of Refuge, and afterward to other and kindred reformatories both in the United States and in Europe. The short sketches of the early movers in this enterprise, and of their labors, are full of interest. The brief narratives of the reformed, with which the volume abounds, are also interesting; many of them exceedingly touching. The various reformatory systems of America and Europe are compared with judgment and impartiality. The book deserves to be widely circulated and thoughtfully read. It can scarcely fail to awake a deeper interest in, and more extended effort on behalf of, a large but unfortunate class of our population. One salutary effect it will doubtless produce in certain quarters, is the removal of the impression that the Refuge is a penal institution instead of one whose designs are benevolent and whose discipline is reformatory solely. The volume closes with a presentation of the view of the more advanced thinkers in this country and in England respecting the period for which convicts in general should be confined; namely, till reformation or death. The argument sustaining this view is a strong one; and the 19th century will not probably pass away before this view will give direction to the penal legislation and action of all enlightened lands.

¹ *English, Past and Present.* By R. C. TRENCH. New York: C. Scribner & Co.

² *A Half Century with Juvenile Delinquents.* By B. K. PEIRCE, D. D., Chaplain of New York House of Refuge. New York: D. Appleton & Co., 1869. Crown 8vo, pp. 384.

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TRUTH AND HONOR IN SCHOOL TRAINING.

MANY teachers believe, and act upon the belief, that their sole duty is to develop, discipline, and store with knowledge their pupils' minds : that the inculcation of right principles of action and the development of character, are not their business, or any part of their business. *Life-culture* is set aside by such teachers for *mind-culture*, instead of the two being carried on together. And this is done honestly, with no intentional neglect of duty.

Other teachers—and these form perhaps the larger class—find themselves in schools the working principles of which are such that the teacher has no choice ; he is compelled to restrict his efforts to the intellectual culture of his pupils. And there are other schools, in high repute often for thorough discipline and scholarship—wherein great pretence is made, it may be, of giving religious instruction—yet whose machinery is such as to create a most unhealthy moral atmosphere : schools in which the constant discrepancy between promise and performance exerts as constant a corrupting influence upon the general character of the pupils.

Now the conditions of healthful school-life, not to mention life-culture, are as plain and as easily controlled as the conditions of physical health. The difficulty is, they are too little regarded, frequently too little understood by the conductors of schools. The master of Uppingham School, England, in a recent work, entitled “Education and School” (London : Macmillan & Co.), lays great stress upon these conditions, in describing what he calls “the machinery of a first-rate school :” having in mind an ideal institution for the training of boys, in which the right thing should always be done at the right time, and in the right way.

There is a double object, he insists, in school training : first, the training

of the life ; secondly, the training of the intellect and the body : the first, setting the loving and hating on the right track ; the second, training the instrumental powers rightly.

The first can be done, he believes, only indirectly ; for the formation of character and a right spirit is only in a very slight degree capable of being made a matter of imparted knowledge. Boys or men become brave and hardy and true, not by being told to be so, but by being nurtured in a brave and hardy and true way, surrounded with objects likely to excite these feelings in a manner calculated to draw them out unconsciously : for all true feeling is unconscious in proportion to its perfection. And as there is no moment in which habits are not in process of formation, there is nothing whatever which cannot be made to bear on this process ; nothing indeed which does not of necessity bear on it. In a school, therefore, it is of the utmost importance that the whole government and machinery should, in its minutest particulars, do this by perfect truth and perfect freedom.

It follows, then, that no falseness in the government, no falseness in the working-plan, in or out of school, can make boys true. Whatever is professed must be done.

If a school professes to teach, then every boy must have his share of teaching. There must be no knowledge-scramble, or the untruth will make itself felt.

If a school professes to train, then every boy must really be known, his wants supplied, and his character consulted, or the untruth will make itself felt.

If a school professes to board boys, then every boy must find proper food and proper lodging, and no meanness ; or the untruth will make itself felt.

A sufficient number of masters, a feeling of being known and cared for, a spot free from intrusion, however small, are necessities in a good school : and the want of these, or any of the other real requirements for training and teaching properly, is a sort of acted falsehood ; for that which is professed is not done. It does not the least follow that this is the fault of the men engaged in these schools. The constitution and legal status of a very large number of schools absolutely compels this kind of imperfect system. And even where it is not the case, immemorial custom and popular opinion—at least as far as hearty support is an evidence of popular opinion—contribute to maintain such defects, and are almost as strong as law. It is not possible for the wisest or bravest men, individually, to break through the systems in which they find themselves working-units. They can but toil and toil, as they do, to make the best of it, and lament their own helplessness to do more.

But the fact remains, whatever may be the cause ; and a lower standard

of truth and efficiency must be looked for, wherever the theory of a school is at variance with its practice. It is a certainty that the continual presence of any false influence in a society must have a great effect for evil, even when the cause is not known or suspected. To train the life truly requires a thorough atmosphere of truth. Like mountain air, the lungs should expand to drink it in, and the limbs will feel the freshness : whilst a languid step and feeble breathing are too surely the consequence of living over sewers, however hidden they may be. Poison is not less poison because it is invisible, or life less life for the same reason. Good air is always invisible, and the subtle working of a great principle of life and truth can no more be caught and labelled than the virtue of the air itself. But some of the necessary conditions, in the absence of which truth cannot exist, may be laid down without difficulty.

The training of the life depends on the conditions under which the life is passed, and is affected for good or evil by everything with which the living being is brought in contact. If truth and honor are required in a school, all things must be framed in such a way as to work out the object professed with thorough truth ; and any want of truth, anything that is false, will inevitably find its way into the life of the boys and taint it. And no wonder : nothing is detected so soon as inconsistency, and eyes looking upward see sharply. Those who stand low on the ladder, observe the dirt under the boots of those above them, and are apt to care little for preachments dropped down from aloft, telling them to keep clean and be good. Those who look up ought to see no dirt. Truth is required to produce truth, and when the machinery is right, and all things are working truly, truth may be fairly expected in return, and boys may be trusted, and can be trusted safely.

There is no more tendency in boys to betray their friends than there is in men ; nay, far less tendency. But then who are their friends ? The whole plan and practice of a school must convince the boys that they and their governors truly form one body, and that the government is their friend. The boy-idea, too commonly, has been that there are two rival powers side by side, *masters* and *boys*, with divided interests ; and school-life therefore has resolved itself into a match between the two bodies, in a sort of Spartan fashion—power on the one side, endurance and cunning on the other. So the fox has never left off preying on their vitals as they stand with false appearance of innocence before their masters. And there is a sham nobility in this ; if the masters are indeed their enemies, in an enemy's country all things are fair, and war knows no nice distinctions. Supposing, however, that parents love their children and send them to school because they love them, and school is therefore for a time a better place than home, and masters are men who do parents' work better than they can do it themselves, how absurd, how pitiful, this

state of warfare is—this antagonism of the boys to those whom their parents trust ; an antagonism not of personal dislike merely (very often quite the contrary), but of intention, systematic and overruling feeling : *a principle of opposition*. The marvel is how this can be considered a training for true life, when honor comes to mean liberty to deceive any master, provided the secret-society bond is held fast.¹ Theoretically, the masters are training boys to be true, whilst practically, to be false to the trainers of truth becomes the recognized code of honor among the boys who are to be trained ; and must do so, as long as there are divided interests. Now there is much excuse for this falsehood. Wherever teaching has got to mean bringing forward the clever, and training enforced obedience to some rigid general laws that fall on all alike, giving, as all general laws do, great opportunity of license to the bad who evade them, combined with great hardship to the good who keep them—where mob-law of this kind is training, and pouring knowledge into troughs is teaching, and other double purposes exist, it seems right for a boy to stick to *his* flag. It is the least of two evils for him to be true to his companions at the expense, if need be, of the powers that deal so strangely with them.

Nothing but truth in the main plan, and thorough completeness in the school machinery, both in-doors and out, can make boys feel that the school is one body, one army ; that masters and boys are united in one life, with one standard round which they rally, one battle-cry—truth and honor for all ; one object—true progress and true power. But let this be the case, and then the boy-allegiance becomes due to the common standard, not to the traitor who betrays it : to the good cause, not to the mean coward who deserts it : to the true friends and true men who work with him, not to the tap-room heroes whose ideal is a tapster ; then the boys will uphold amongst themselves their laws, just as men uphold theirs, and think it no shame to make thieves and traitors know their place.

If there is opposition between the boys and their teachers, there will be similar opposition between work and play, though the two are equally parts of education. No great progress can be made until the conviction of oneness is stamped on the school heart and becomes its creed. Then the antagonism between in-school and out-of-school, between work and play, between body, intellect, and heart, disappears, and all is in harmony. For the young, learning to have faith in the old, believe with them that life is one piece, and each good helps every other good : health of body, health of intellect, health of heart, all uniting to form the true man, and being the common object of teachers and taught.

¹ His honor rooted in dishonor stood,
And faith unfaithful kept him falsely true.

Guinevere. TENNYSON.

THE CIVILIZING WEDGE.

THE sending of a wooden country school-house from Illinois to the Paris Exposition, was a most innocent piece of irony, for which we must have suffered not a little in the estimation of all intelligent foreigners who chanced upon the ugly little building amid the gorgeous monuments of the outer park. The mistake lay in attempting to represent an idea, on which the United States may well pride itself, by its least impressive symbol. The common-school system is one thing, the common-school building in the rural districts is quite another, though it must be admitted that there is a very strict connection between them, and that the condition of the latter will justify very positive inferences as to the condition of the former. Now, the idea of public instruction is patent—it belongs to us ; but the school-house is a good deal more ancient than the earliest colony this country has ever known. The essentials of a proper edifice for any purpose are as well understood in Europe as they are here, to say the least—in fact, some are ready to assert that there is no architecture on this side the Atlantic ; and it was absurd to suppose that anything we could transport and set up on the Champ de Mars would exhibit our liberality in providing for education. Foreigners must come to us to be convinced of that ; and they must not stray far from the cities. They would, in the interior, find less than half of the school-houses as good as the Illinois specimen, while the location of most of them would promise for the best originals but a short reprieve from neglect and dilapidation. They would be enabled to test the justice of the declaration which has been made by some of our local committees, and has often approved itself to careful observers—not without shame—that in general the housing of our cattle is better than that of our children at the public schools.

To have made the example complete, the Illinois school-house should have had an outhouse ; but its wise projectors probably saw that in this they could not expect to instruct the Old World, or to excite special admiration. They might even have had scruples about deceiving foreigners on this score, or, shall we say, deceiving them further ? They had shown as a fair sample what was really far above the average—being new, and clean, and weather-tight ; the lights all in, the benches not desecrated with obscene carving, the door still turning on its hinges. Commercially speaking, they had already committed an immorality. Could they palm off an outhouse as an invariable accompaniment of the school-house ? or a decent one as the rule where any exists at all ? Clearly not and still profess to be conscientious and upright men. I presume, therefore, that

they did not, and I wish to confirm the wisdom of their omission by citing the testimony of sundry school reports which have been collated by the author of that useful pamphlet, "The Daily Public School in the United States."¹

One county in Ohio speaks, no doubt, the language of many, when it says that the outhouses attached to its schools are "a disgrace to civilization." After that, it is not worth while to summon other witnesses from that State. Let us hear from Pennsylvania a little more in detail :

(*Chester.*) "There are 120 school-houses in the county, 30 of which are so totally unfit, that the comfort, health, or convenience of the pupils attending them is scarcely consulted in a single respect. Only 30 of the 120 are provided with the necessary outbuildings ; 31 are partially provided, and 50 are without any."

(*Cambria.*) "Whole number of school-houses in the county, 148 : unfit for use, 16 ; unsupplied with means of ventilation, 122 ; unprovided with outbuildings, 101."

(*Clinton.*) "There are ten school-houses unfit for use, and positively injurious to both pupils and teachers. The number not provided with outbuildings of any kind is 31 ; with indifferent ones, 38 ; and with suitable ones, 29."

(*Cumberland.*) "Some of the buildings are in a most shameful condition."

(*Northampton.*) "Only one of the nineteen school-houses in one township has the necessary outbuildings. A similar defect exists in several other districts. If these outbuildings are essential to the cultivation of habits of propriety and delicacy among children of the same family, how can they be dispensed with at the public school-house, where 40 or 50 children of different families daily associate?"

(*Tioga.*) "The number of worthless school-houses is very large. Outbuildings are entirely wanting to at least half of the schools."

(*Venango.*) "A school lot neatly fenced, with suitable outbuildings upon it, would be a novelty in this county."

And that Pennsylvania may not blush alone, here are some tidbits from New York :

(*Broome.*) "Fully one-half the school-houses have only the highway for a playground ; and all the surroundings are gloomy and repulsive. Some are entirely destitute of outbuildings."

(*Greene.*) "Eighty school-houses : one-third superlatively bad. Outbuildings scarce and in bad condition."

Here we may as well stop : not because the list is exhausted with these three States and the counties enumerated—for all are guilty in some de-

¹ Philadelphia : J. B. Lippincott & Co. 1866. Vide pp. 87, 88, 111, 112.

gree—but because the evidence is overwhelming. It must be remembered that these corresponding reports from widely different parts of the country imply a general, not a local disease ; and as they are probably due to the more enlightened committees and superintendents, it is likely the worst is yet to be told, or that as bad remains.¹ Of one thing we may be sure, that the character of these nuisances has been generally understated whenever exposed at all ; and the argument for such an opinion is, that whoever is accustomed to the decency (or indecency) of domestic outbuildings in farming districts, will not be shocked at trifles in the case of the schools. It may as a rule be affirmed, that where the plumber has no part, fastidiousness will have none—at least, quickly—in locating and keeping these receptacles of excrement ; and the custom of the country, in the eyes of country people, is a sufficient excuse for neglect which in the city would bring down on the school the police and the Board of Health. We must therefore nearly or quite double, in our imaginations, the actual complaints against the condition or want of outhouses in country schools, in order to get a just idea of the extent of the evil which it is of the first importance to abate, first in the interest of modesty and purity, and then of civilization.

If we picture to ourselves a young woman inducted into a school-house which, to quote the latest description, is “unsightly, unpainted, located on some pitch-pine, white-birch, barren or sand knoll, illy or *too well* ventilated, with a generally dilapidated, tumble-down appearance,” with no outhouse, or an “indifferent” one, or one in “bad” or “shameful condition”—at what point, we may ask ourselves, ought she to begin to regenerate her little domain—by bringing her influence to bear on the parents, or committee of the district? Would she not be justified in insisting that decency should be provided for in advance of comfort? Would any sanitary reform—even ventilation and light—have prior claims to the outhouse? And would not a firm refusal to accept an appointment as teacher, until this nuisance be removed, be often sufficient to accomplish the end? Perhaps not, if only one protested ; but if teachers generally were as particular about taking a “situation” as our house-servants are (with their demands for stationary tubs, and all other “modern conveniences”), the desired reforms might be brought about. We should like to see a conspiracy, in public, among the members of some one of the numerous Teachers’ Institutes, to strike, unless the school-houses of

¹ Here is Mr. Warren Johnson’s “Fifteenth Annual Report of the Superintendent of Common Schools of the State of Maine,” page 125 : “I desire, however, to call your especial attention to the Normal School Building at Farmington. This being a State ‘school-house,’ it is surely desirable to present in this a fair model of school-buildings. . . . Until last Fall there were not even decent outbuildings, and no dress-room for ladies. *These were provided as necessities, trusting to future appropriations to defray expense of same.*”

the county were renovated in thirty days. If the pretence were resisted, nothing could have a better effect on the minds of the public at large, and we venture to predict that the teachers who had struck would not lack for calls to more congenial fields. Nevertheless, however utopian such a combination may seem, the duty of the individual teacher, whether man or woman, to exert a purifying and enlightening influence upon the scene of his labors, should not be neglected. As long as he endures without remonstrance, the evil will go unchecked.

OUR POPULAR TEXT-BOOKS.

I. English Grammars.

AMONG the branches to which more or less time and attention are given in our schools, English Grammar occupies no insignificant place. This fact of itself demands that, in an examination of the various leading text-books in common use—such as we propose to make—our English Grammars should not be overlooked. But, in order to examine them properly or profitably, we must have some standard to judge by. Before we can pronounce upon their merits as means to a certain end, we need to have a clear and definite idea of the end to be attained, and, if possible, of the appliances and means most likely to secure the attainment of that end. It will, therefore, be necessary to consider two or three preliminary points. These we shall notice as briefly and concisely as justice to the subject will allow.

1. What is the *end* to be attained by the study of English grammar? The variety of views that exist on this point certainly justifies the asking of this question. Some regard grammar as embracing almost everything pertaining to language. They call it, perhaps, “the science of language;” and, accordingly, make it treat of orthography, orthoepy, the derivation and history of words, synonymy, rhetoric, composition, and even the principles of oratory. These, and other subjects sometimes treated of in grammars, may be important—some of them exceedingly interesting—and deserving of attention in the course of a liberal education. But this has nothing to do with the question. The inquiry is simply—Do these subjects belong to the science of grammar, so that their exclusion, one or all, from an English grammar, would render the book incomplete as a text-book on this subject? We answer: No. We ought as soon to look into an Arithmetic for instruction in algebra, geometry, trigonometry, conic sections, surveying, navigation, and the higher mathematics generally, as

to expect to find the different departments of the science of language crowded into "An English Grammar." If we know what grammar, properly so called, is, it is simply that department of the science of language which aims to teach how to combine words correctly in discourse.

The origin and history of language, or of individual words, the principles of orthography, accentuation, versification, composition, and elocution, constitute no part of what is commonly and properly regarded as grammar. Even sentential analysis—by which we do not mean parsing—does not really come within its scope. One may be a superior grammarian, and yet know nothing of A's or B's or any other man's mode of analyzing sentences. Or he may, on the other hand, be skilled as a sentential analyst, and yet be a poor grammarian. The study of sentential analysis, as of other things, may be desirable. It may be well to supplement the study of grammar with it. But to regard analysis as a part of grammar, is like regarding algebra as a part of arithmetic. The end and aim of grammar, properly so called, is correctness in combining our words when we speak or write. Its province, therefore, is to treat of the different kinds of words in the language, considered with reference to the use they serve in speech, their accidents, and the laws to which they are subject when brought together in discourse. This end should be kept steadily in view, and all topics not bearing thereon should be studiously avoided. If any such topics are to be attended to, the learner should fairly understand it, and not be made to suppose he is studying grammar when he is in fact devoting his time to orthography, or analysis, or rhetoric, or linguistics, or something else. Nor is this all. The evil is increased in many instances by the introduction of speculative matter, or profitless "puzzles," that have no more to do with aiding a person to speak or write grammatically than the study of conic sections has. A good grammar will avoid everything not legitimately falling within its province, or calculated to advance the learner as a practical grammarian.

2. At what *age* should grammar be studied? In a certain sense, from infancy. Speech being acquired by imitation, correct examples should, from the first, and as far as possible, be placed before the young, so that, as they acquire the use of the language, they may acquire it correctly. This, however, neither is nor can be always done. Verbal corrections, therefore, may and should be made from day to day, or from time to time, upon such errors as are committed within the teacher's hearing. If this is judiciously and faithfully done, a child, as he advances in years, will acquire a grammatical use of language without what is properly called study. But as the subject of grammar is one of the most abstruse, necessarily requiring much thought and judgment, the *study* of scarcely anything more than the simplest and plainest definitions and rules and the paradigms can hardly be expected before the learner shall have attained a

sufficient degree of maturity to reason and pass judgment. A small treatise on grammar, like a small map of the world, if adapted to his capacity, may serve to give him a correct idea of the *more prominent* features of the subject. But the details and nicer points can neither be understood nor learned by ordinary children under fourteen or even fifteen. It is not to be denied that, to most students, grammar is a dry, difficult, and profitless subject. This is owing, in a measure, no doubt, to the unsatisfactory manner in which it is treated in the text-book employed, or to the teacher's incapacity or inefficiency, or to both : but not wholly ; for, with the best text-books and under the most efficient teachers, how many still find it an irksome, uninteresting subject ! The truth is, that among all the studies commonly assigned to children, there is none inherently so difficult as grammar, requiring, as it does, in very many instances, the closest attention and the nicest exercise of the analytical powers. The study of algebra and geometry is deferred generally till the learner is able to comprehend the nature of abstractions and pursue understandingly a course of argumentation. This is right. A similar course in regard to the study of English grammar, with suitable text-books and capable instructors, we doubt not, would revolutionize the views and feelings with which learners generally regard it. What is now uninteresting, because difficult of comprehension, would then be pursued with zeal and correspondingly greater profit.

3. Another question that might be appropriately asked is, How much *time* should ordinarily be given to the study of this subject ? Ability to speak or to write grammatically, is a thing of prime importance. It shows itself everywhere and at all times. Not so, however, with a knowledge of other branches. A man may mingle with men for weeks and even months, and his proficiency or deficiency in arithmetic, geography, penmanship, the classics, geometry, and other sciences, may not be at all apparent or even suspected. But let him speak or write, and his words will testify at once either for or against him. And sometimes they do it in such a way as to make or mar his fortune. Of all branches of knowledge, grammar would thus seem to be one of the most thoroughly practical. The time, therefore, to be devoted to it in the ordinary course of one's education should be proportioned to its relative value, so far as this can be done without infringing upon the claims of other and what may possibly be considered more important studies. And yet the time required, comparatively speaking, is not long. With a properly prepared text-book, and with students of a suitable age, a year ought to afford ample time for acquiring, in connection with other studies, a thorough practical knowledge of the leading principles and rules of grammar, which, with occasional after-exercises, oral and written, to deepen and fix that knowledge, should serve to make students more than ordinarily pro-

ficient in this department. That, then, is the best text-book by means of which, all other things being equal, the greatest amount of practical grammatical knowledge can be acquired in the shortest time.

4. This leads us, almost necessarily, to consider the *method* employed ; for very much depends upon the mode in which knowledge is presented. Of course, every author, as well as every teacher, will have, to a certain extent, a method of his own. And yet there are certain points essential to every properly prepared text-book. One is systematic arrangement and a clear and thorough treatment of one thing at a time. Nothing is more confusing and unsatisfactory than the immethodical jumbling together of disconnected subjects. Under the notion of being "synthetic," or "progressive," or "practical," text-books are too often made, like mince-pies, very various in their materials, with those materials thoroughly mixed together, and possibly well spiced too after a fashion, but shockingly hard to digest. This is one reason why the intellectual stomach of little boys and girls revolts so generally against grammar, either as a daily diet or as an occasional dessert. Their text-books, instead of possessing a clear and natural arrangement, with each subject lucidly and satisfactorily treated by itself, are literary hashes or stews, in which the true character of the matter in hand is scarcely distinguishable. It looks perhaps like syntax, but is found under "etymology ;" or, it has the appearance of etymology, but is called "syntax." It may be a pronoun, but is treated as a noun or an adjective ; or, it may be an adjective, but is found among adverbs. And so on, *ad infinitum*. We expect, therefore, to find, in a grammar worthy of adoption and use as a text-book, an orderly arrangement and as simple and homogeneous a treatment of the subject as the circumstances will allow.

Another and the principal point is that, whatever may be his general plan, if the author expects to invest the subject with interest and succeed in making grammarians, he will deal as little as possible in mere generalities. He will not be satisfied with inculcating principles, and leaving his pupils to reduce them to practice the best way they can. The great mass of learners are not philosophers, and consequently can neither comprehend the scope of general statements, nor derive therefrom any practical advantage. Not merely should the definitions and rules be given in language clear, correct, and concise, for memorizing ; but they should be followed up by repeated, full, and varied applications, serving both to fix those definitions and rules, and to make them practical, which in fact is the principal thing. Nor will it do to leave these to be supplied by the teacher. Teachers, for one reason or another, in nine cases out of ten, do not and will not thus supplement an author's deficiencies. Hence, while frequent, thought-awakening exercises, requiring a practical application of the learner's knowledge, and calling forth an exercise of his skill

and judgment as he proceeds, are essential, they should be found at hand in every suitable text-book on this subject, especially in the department of syntax. There is nothing, we are confident, that conduces more toward making a practical grammarian than the correcting of examples in false syntax. We are aware that there are those who differ with us on this point. No less eminent and distinguished a writer than the Hon. George P. Marsh, in the first number of the New York World, published June 14th, 1860, holds the following language: "The other objection to which we refer, is the employment of examples of false spelling and grammar, as a means of teaching true orthography and syntax. [With the question of teaching *orthography*, we have nothing to do now. We believe, however, with Mr. Marsh, that to correct false spelling is not the true way to teach right spelling.] Bad example is in all things more contagious than good. We all know how dangerous it is to imitate, even in joke, a vicious pronunciation or an ungrammatical phrase." Very true; but the examples referred to are not given for "imitation." The effect of *correcting* false syntax is just the reverse of that here supposed. Instead of vitiating one's speech, it is the most effectual means of improving it. It is virtually showing a person his own faults and those to which he is liable, and enabling him to shun them; whereas, if they were not pointed out to him, he would probably never be so much as aware of their existence, much less be enabled to overcome them. We are not indulging in speculations on this matter. We know whereof we affirm. Nor can we yield our convictions, based on years of experience and observation, to the *ipse dixit* or conjectures of any one, however eminent he may be, whose want of experience in the matter is enough to disqualify him for judging. We believe with Murray, "that a proper selection of faulty composition is more instructive to the young grammarian than any rules and examples of propriety that can be given."—(*Introd. to Eng. Gram.*) Does any one question it? Let him compare the best writers previous to Murray's time with those of the present day. He will find that, grammatically, the latter are far in advance of the former. And why is this? Obviously, the later writers have arisen from among the thousands and tens of thousands that have been drilled in the exercises in false syntax given by Murray, Brown, and others. By writing out those exercises, or correcting them orally, they were compelled to put into practice what they had learned,—an advantage which but few earlier writers enjoyed. The best grammatical text-books will ever be found to abound with practical exercises, affording the learner *something to do*, not simply in the way of learning definitions and principles, and examining examples illustrative of them, but more especially in the way of correcting such violations of those principles as in ninety-nine cases in a hundred would probably pass unheeded in after-days, if the attention were not thus called to them.

AMERICAN EDUCATORS DECEASED IN 1868.

II.

MATTHEW VASSAR, the founder of Vassar College, died in the College building at its anniversary on the 23d of June, aged 76 years. He had acquired a large fortune as a brewer, and, having no children to inherit his money, he determined to found a college for the education of women. In February, 1861, he gave to trustees incorporated for the purpose \$408,000, in bonds, stocks, &c., to found Vassar College. He subsequently added considerable sums to this endowment; and induced his nephews to make special donations to it. In his will he made further bequests for its endowment, repairs, &c., making the total of his gifts to the College nearly \$900,000.

On the same day the Rabbi MORRIS JACOB RAPHAEL, Ph. D., a Jewish preacher, teacher, and author, died in New York City, aged 70 years. Born in Stockholm, Sweden, educated at the Jewish College in Copenhagen, and at the University of Giessen, he took up his residence in England in 1825, and distinguished himself as a lecturer on Hebrew Biblical Poetry. He also acquired reputation by his excellent translations of standard Hebrew works, and by his original and vigorous essays. Appointed Rabbi preacher to the Synagogue at Birmingham, he founded in that city a Hebrew National School, and by his exertions in behalf of education won the high regard of all the citizens. He came to the United States in 1849, and as Rabbi of the Great Synagogue, and editor of a Jewish periodical, as well as by his published works, he accomplished much for the cause of education.

Rev. WILLIAM ALLEN, D. D., an eminent scholar, instructor, and author, died at Northampton, July 16, aged 84. He was a graduate of Harvard College, class of 1802. He studied theology under the direction of Rev. Dr. Pierce, of Brookline, Mass. From 1805 to 1810 he resided in Cambridge as Assistant Librarian and Regent or Proctor of Harvard College. He was ordained as Pastor in Pittsfield, Mass., in 1810, appointed President of Dartmouth University in 1816, withdrew under the decision of the Supreme Court of the United States in 1819, became President of Bowdoin College in May, 1820, and continued in that position till 1839, when he resigned, and took up his residence in Northampton, Mass. His subsequent life was devoted to literary and scientific pursuits.

Colonel T. C. JOHNSON, late President of Randolph-Macon College, Virginia, died at Mattoon, Ill., August 3d.

Miss HANNAH UPHAM, for many years principal of the Canandaigua Seminary, died in Canandaigua, N. Y., August 20th, aged 80.

Professor GEORGE J. ADLER died at the Bloomingdale Insane Asylum, August 24th, aged 47 years. A native of Germany, he came to the United States at the age of twelve years. He was graduated at the University of New York in 1844, was appointed Professor of German in the University in 1846, and continued in that position till 1854. He was the author of the best German-English and English-German Dictionary yet published, and of many other valuable text-books of modern languages. He had been insane at intervals since 1860.

September 1st.—SIMEON BENJAMIN, a wealthy and benevolent patron of education, a resident of Elmira, New York, died at Riverhead, L. I., aged 72. Mr. Benjamin's interest in education was deep and earnest. He was an early friend of the Auburn Theological Seminary, and had given at different times \$15,000 or more to it. In his will he left it an additional \$10,000. He had also been a trustee and friend of Hamilton College, and had given \$20,000 toward its endowment, to which he added in his will \$20,000 more. He was one of the founders of the Elmira Female College, and had been for years the President of its Board. His previous donations to it amounted to \$55,000, and he added in his will \$25,000 more. Besides these liberal bequests and gifts, he left \$30,000 to the Presbyterian Boards of Home and Foreign Missions, and a considerable sum to the Orphans' Home at Elmira.

On the 3d of September, Hon. DAVID L. SWAYNE, LL.D., President of the University of North Carolina for many years past, died at Chapel Hill, N. C., of injuries received by being thrown from his carriage a few days previous.

The Right Rev. GEORGE ALOYSIUS CARRELL, S. J., D. D., Roman Catholic Bishop of Covington, Kentucky, died at Covington, Kentucky, September 25th, aged 65. He was educated at the College of Georgetown, D. C., at Mount St. Mary's, Emmitsburg, at the Novitiates of the Society of Jesus, at Whitemarsh, Md., and at Florissant, Mo. For six years he was a Pastor in Philadelphia, and in Wilmington, Delaware, establishing excellent schools in the latter city. In 1837 he became a Professor in the University of St. Louis. From 1845 to 1848 he was Rector of the University; in 1849-50 President of Purcell Mansion College, Cincinnati; and from 1851 to 1853 Rector of St. Xavier's College, Cincinnati, and Pastor of the College Church. In 1853 he was consecrated Bishop of Covington, but his interest in education continued, and he established numerous schools in his diocese.

September 26.—Rev. DAVID TODD STUART, a Presbyterian clergyman and teacher, died at Shelbyville, Kentucky, aged 58 years. He was educated at Centre College, Danville, and at Princeton Theological Seminary. From 1835 to 1853 he was Pastor of the Presbyterian Church of Shiloh and Olivet, Kentucky, taking deep interest in education. In

1853 he removed to Shelbyville, and took charge of the Shelbyville Female Seminary, the care of which he retained till his death.

JOHN McVICKAR, D.D., Episcopal Clergyman and Professor of Moral Philosophy, died at Bloomingdale, New York City, October 28, aged 82. He was graduated from Columbia College in 1804. From 1811 to 1817 he was Rector of the Episcopal Church at Hyde Park, New York, when he was appointed Professor of Moral Philosophy, Rhetoric, and Belles Lettres in Columbia College. He discharged the duties of his professorship for more than forty years. A few years ago his health compelled his resignation, and he was created Emeritus Professor.

On the 24th of November, Rev. HIRAM MATTISON, D.D., a Methodist clergyman, teacher, and author, died in Jersey City, New Jersey, in the 58th year of his age. He was a native of Oswego, New York, a graduate, we believe, of Wesleyan University, Middletown, Conn., and for many years a Professor in the Black River Institute.

JOHN A. NICHOLS, LL.D., one of the most successful of our city professors of mathematics, died in New York City on the 27th of November, aged 47. He had at first been appointed to the Chair of Experimental Philosophy as successor of Lieut. (since Major-Gen.) William B. Franklin, but a few months later (in 1852) was transferred to the Chair of Mixed Mathematics, which he held till his death.

ARTHUR E. PETTICOLAS, M.D., Superintendent of the Eastern Lunatic Asylum at Williamsburg, Va., committed suicide there, in a paroxysm of insanity on the 28th of November, by leaping from an upper window. He was an accomplished physician, and had been for some years a professor in the Medical College at Richmond, Va.

On the same day, Rev. LABAN CLARK, D.D., an eminent Methodist Clergyman, and one of the founders and warmest friends of Wesleyan University, died at Middletown, Conn., in his 91st year.

HAWLEY OLMSTEAD, LL.D., for almost half a century identified with educational interests in New Haven, Conn., and its vicinity, died in that city December 4th, at the age of 75. He was graduated from Yale College with the highest honors in 1816, and soon after took charge of the Academy at Wilton, Conn. He was subsequently Rector of the Hopkins Grammar School, in New Haven, until 1849, when he resigned in consequence of ill health, but kept up his connection with the College and his interest in the educational affairs of the City and State until his death.

On the same day, Rev. JOSEPH SMITH, D.D., a Presbyterian clergyman and teacher, died at Greensburg, Pa., aged 73. He was educated at Jefferson College, Pa., graduating in 1815. After teaching at Berryville, Va., for a year or more, he entered Princeton Theological Seminary, and was ordained in 1822. At Harrisonburg and Staunton, Va., and Frederick City, Md., where he was successively settled, he had charge of

large academies, in addition to his pastoral duties. In 1833 he was chosen President of Franklin College, New Athens, Ohio, where he remained till 1838, when he resigned and returned to Frederick City, Md. Here he took the Presidency of a new College, together with the pastorate of the Presbyterian Church. He fulfilled these double duties until 1843, when he removed to Ellicott's Mills, Md. His subsequent career was not specially connected with education.

DEWITT C. ENOS, M.D., an eminent Physician and Medical Professor, of Brooklyn, New York, died in that city December 14, aged 45. He had been for some years Professor of Anatomy in the Long Island College Hospital.

December 19th.—USHER PARSONS, M.D., a distinguished surgeon, professor, and author, died in Providence, R. I., aged 80. He was a native of Maine, and received an excellent academical education in that State. He studied medicine in Boston under the elder Dr. Warren, and was a Surgeon on Commodore Perry's flagship in the battle of Lake Erie. Settling in Providence after the war, he was subsequently Professor of Anatomy in Dartmouth College, Professor of Natural Science in Brown University, and long President of the Rhode Island Medical Society. He was also an author of considerable note.

Rev. BASIL MANLY, D.D., an eminent Baptist clergyman, teacher and author, died at Greenville, S. C., in December, in the 71st year of his age. He was educated at Brown University. He was Pastor of the First Baptist Church in Charleston, S. C., from 1826 to 1837, when he accepted the Presidency of the University of Alabama, where for nearly twenty years he was remarkably successful as an instructor and disciplinarian. In 1856 he resigned, and returned to Charleston. In 1859 he removed again to Alabama, but did not engage in teaching.

STUDYING LATIN.

II.

IN the former article it was stated that to acquire a sufficient knowledge of the word-forms, of the constructions, and of the words, is tantamount to mastering a language ; and that these three elements ought to be studied together.

It is proposed in the present paper to treat of the study of the words.

When the attempt is made to teach the inflections, syntax, and the words simultaneously, the latter are generally selected and arranged in lists for study. In compiling these vocabularies certain principles ought

to be observed. In the first place, they ought to contain all the common and important words of the language. It is quite possible to learn the words answering to this description. They are not very numerous; and surely this end must be kept in view if the language is to be learned. As boys study Latin at present, they learn the language of history and that of poetry, but they do not learn the words of common every-day use. From this cause, in part, it falls out that they cannot speak in Latin without great effort: it would be hard for them to express themselves in their own language in the lofty style of Milton or of Macaulay—and they cannot speak at all of the familiar things which they talk about daily in their own tongue. The study is thus deprived of its interest, of its reality, and in great measure of its value. It is of more importance for us to know the language of the barber-shop than it is to know the language of the senate-house. Not that the words of dignified discourse are worthless. It is only to be insisted on that the common words, the words of the *vulgus*, shall receive their fair share of attention. We need to know the colloquial Latin as well as the Latin that goes on stilts.

In the second place, the definitions should be complete. In most cases it has been deemed sufficient to give one or at most two meanings of each word; while in partial lexicons, intended for single works, those meanings only are given that are necessary for translating those works. Thus there is no systematic and thorough study of the words. The knowledge gained is fragmentary, and cannot be used with confidence. Full and accurate knowledge can be gained only by having full definitions. But to learn these definitions seems at first blush to be a task for a Hercules. Every boy who has consulted the larger dictionaries has been surprised at the great variety of meanings attaching to the barest and commonest words. For instance: *make*, according to Worcester, has eighteen meanings; *do* has six; *hard* has twelve; and *hand* has fifteen. There is the same variety in the significations of Latin words: some have as many as thirty or forty English equivalents. To study definitions at this rate is out of the question. But there is in general one meaning to which all the other meanings can be traced. It will be sufficient to define a word by giving its root-meaning and the most important and most divergent derived meanings. This would lay a broad and solid foundation. Practice and use would soon give completeness and finish to the knowledge thus begun.

It often happens, however, that the pupil is left to get his knowledge of words from the pages of the general dictionary. The great multitude of meanings then becomes a serious aggravation of his troubles. This is especially true when he is translating Latin into English. He finds great difficulty in selecting the proper definition,—a difficulty not experienced in reading English, because the meanings of nearly all the words in any

ordinary English sentence must be known ; whilst it is often the case that a boy who has never studied words does not know the meanings of any but the commonest words in the sentence he is trying to decipher. And if he is told to learn the words, he is appalled at the thought of studying the almost numberless meanings. But the task seems harder than it really is. The root-meaning, once ascertained and committed to memory, is a key to the rest. The mere mental act of tracing them up to the root-idea often suffices to fix them in the memory. The word *manus* may be taken as an illustration. It has about fifteen senses (V. Andrews' Dictionary) ; they are as follow : (1) hand, (2) fist, (3) handwriting, (4) workmanship, (5) skill, (6) stake, as in gambling, etc., (7) thrust, as in fencing, (8) blow, (9) trunk, of the elephant, (10) fore-paw, (11) branch, of a tree, (12) grappling-irons, used in sea-fights, (13) body of troops, (14) host, or multitude, (15) power. Now the connection of all the derived meanings with the root-meaning is quite plain, except in the case of the thirteenth and fourteenth. The simple recognition of this connection is sometimes sufficient to fix the meanings in the mind. Even if not quite sufficient, it is at least a powerful aid to the memory ; and if the habit is formed of tracing all the secondary meanings to their root, though done without a formal attempt to commit them to memory, the knowledge of words will increase at a surprising rate. It will give better results, however, to fix upon some small portion of the daily lesson—say the first five lines—and study all the words in those lines. Study all the meanings if possible ; and at any rate the root-meaning and more important of the secondary meanings. Work of this kind, if done faithfully and thoroughly, will be found very profitable. The student will soon be able to quadruple his lessons, and, after a few months, will be able to translate at sight, without study. This is no mere theory. We have seen boys acquire, in a few weeks, such knowledge of the words of their author as to be able to translate four or five pages a day, whereas formerly they had found it difficult to turn into English half a page at a lesson.

WHAT I admire in Germany is, that while there too industrialism, that great modern power, is making at Berlin, and Leipzig, and Elberfeld, the most successful and rapid progress, the idea of culture—culture of the only true sort—is in Germany a living power also. . . . If true culture ever becomes at last a civilizing power in the world, and is not overlaid with fanaticism, by industrialism, or by frivolous pleasure-seeking, it will be to the faith and zeal of this homely and much ridiculed German people that the great result will be mainly owing.—*Matthew Arnold*.

NEAR-SIGHTEDNESS IN CHILDREN.

REVIEWING Dr. Cohn's report¹ of an examination of the eyes of some ten thousand German school children, *The Nation* says :

"The author takes for his motto the words of Prof. Donders : 'I say, without hesitation, that a short-sighted eye is a diseased eye.' Probably four out of every five readers of this page do not believe Donders. Popularly, 'a near-sighted eye is a strong eye.' Let any one who wishes make the experiment of telling the next man he meets with glasses that his eyes are diseased. We assure him of a cool and incredulous reception. Every one has friends or relations who are near-sighted, but who work long and hard by lamp-light, and endure it as well as anybody ; and we are not ready to believe that our friends—still less ourselves—labor under a 'chronic organic disease' of the eyes. Still, the words upon the title-page confront us with the disagreeable assertion of this fact. Before examining Dr. Cohn's book, let us state plainly what a near-sighted eye is, and how it merits to be called diseased.

"The fortunate possessor of a good eye can read a printed page like this at the distance of three feet. He can bring the page gradually nearer, to within three or four inches of his eye, and still be enabled to read, through a conscious effort—an actual muscular effort—of which the rationale is as follows. The rays of light pass through the lens, called crystalline, placed in the central axis of the eye, and are focused upon the retina, as the picture in a magic lantern is focused by the lens upon the white sheet. *Distant* rays are exactly focused by the normal eye at rest—and therefore vision of distant objects is clear. But to focus a *near* object exactly, of course, requires a lens of a different shape ; and this slight change of shape is actually effected by the aid of a tiny muscle within the eye. When normal eyes are engaged upon objects within a distance of less than a foot, this muscle is constantly at work, adapting the shape of the lens to suit circumstances. Of course, the muscle may become wearied with overwork. It may ache, and set the whole eye aching. More than this, the effort—expressively called 'straining the eye'—produces a pressure upon the coats of the eyeball from within ; and in young children these coats are delicate, and may easily acquire a tendency to give way before this constant pressure. The pernicious habit of holding

¹ "Untersuchungen der Augen von 10,060 Schulkindern, nebst Vorschlägen zur Verbesserung der den Augen nachtheiligen Schuleinrichtungen. Eine ätiologische Studie von Hermann Cohn, Med. et Philos. Dr. Augenarzt in Breslau." Leipzig, 1867. 8vo, pp. 171. [An Examination of the Eyes of 10,060 School children ; with suggestions for the correction of certain arrangements in schools injurious to the eyes ; by Dr. H. Cohn, of Breslau.]

the head down to the book tends to the same result, for, of course, the blood rushes into the eye, crowding it still further, and increasing the tendency—if any exists—to a gradual bulging out of the eye. Here, then, is the whole story. An eye is overworked in such a manner as to make its fluid contents press too severely upon its coats; the pressure is continued, six hours a day, for two or three thousand days; the process is begun at an age when the whole body is soft, when even the bones will bend before breaking; the eyeball begins gradually to lose its correct shape; it yields at the back part, and thus becomes slightly elongated. This condition is near-sightedness. The retina, at the rear of the eye, is too far from the lens to receive an image properly focused. Further optical explanation is here out of place; suffice it to say, that this simple change in the shape of the eyeball constitutes near-sightedness, and that this changed condition is not a healthy one, but often tends to a steadily increasing disorganization of the coats of the eye, producing partial or total blindness in the end.

“Thus is our author’s motto justified. As to his observations, they are truly invaluable, as being really the first of the kind which have been alike wide in their range, ample in number, and minutely careful in each instance. He has examined five schools of low grade in the village of Langenbielau, near Breslau, and twenty-eight schools—of six orders—in the latter city. The ages of the 10,060 pupils varied from seven to twenty-two years. The examination was conducted during the winter term of 1865–6, with all the appliances known to modern science for obtaining trustworthy results. The mode of examination was as follows. Every scholar was bidden to stand in a good light, and read from a sheet printed for the especial purposes of this test; the type being at a distance of four feet from his eyes. Those who could not read rapidly from this sheet were noted as deficient in visual power. Each one thus noted as deficient was then subjected to a thorough examination by the means of glasses and the ophthalmoscope in the hands of Dr. Cohn himself. The result of this examination gave the surprising total of 1,730 children—over 17 per cent. of all examined—as more or less deficient in sight. We will give a rapid summary of a few of the principal results.

“The number of children with defective vision increases steadily, through seven grades of schools, from 5 per cent. in the lowest grade to 31.7 per cent. in the highest. This large proportion, nearly one-third in the highest, is not accidental, for it is obtained from an examination of two *gymnasias* (answering to our American ‘colleges’) containing 1,195 pupils. The proportion in the city schools is nearly four times as great as in the country schools. Of the 1,730 with defective vision, 1,004 were near-sighted, very trifling cases of the affection not being included.

“No school was without myopic (*i. e.* near-sighted) scholars. The

village schools, on the average, had 1.4 per cent. ; the city schools eight times as many (11.4 per cent.) In the city there was a constant increase in the number of myopes from the lowest grade of school up to the highest ; *i. e.* from 6.7 per cent. up to 26.2 per cent. In the two upper classes of the *gymnasia*, 115 were near-sighted, against about 135 who were not so ! As to age, among the pupils in the village schools, 243 were found who had attended school not more than six months ; of these, *not one* was near-sighted. The proportion rises steadily, in almost every kind of school, from the youngest to the oldest classes. The degree of affection increases in proportion to the age of the scholars and the rank of the school. Less than one-fourth of the near-sighted required glasses between Nos. 6 and 15 ; the remainder weaker glasses. Near one-half required No. 24, or a weaker glass.

“ Without going further into Dr. Cohn’s statistics, surely here is enough to set us on the inquiry for causes. No near-sightedness before the school age—and nearly one-half of the oldest pupils near-sighted ! Our author sums up his results with the remarks : ‘ I am far from attributing the enormous extension of near-sightedness among school children *exclusively* to the school ; but a due respect for hygienic laws should compel us to arrange matters so that no one can point out even a possible cause of harm.’ The points which he would see attended to are :

“ ‘ 1. School desks and seats adapted to support the child’s body in a healthy position, with his eyes at a proper distance from the book.

“ ‘ 2. Very well lighted school-rooms, to remove the temptation to hold the book near the face—a prolific source of the increase of near-sightedness.

“ ‘ 3. Statutes to prevent school children from wearing glasses unless ordered and selected by a physician.

“ ‘ 4. Strict disciplinary measures to prevent scholars amusing themselves by *squinting* (a popular athletic pastime !)

“ ‘ 5. Instruction in normal schools, that teachers in future may be aware of the evils arising from bad hygienic arrangements in schools.’ He adds :

“ ‘ I am convinced that if these suggestions should be attended to by those in authority, the result would be, not indeed the complete banishment of diseased eyes from the world, but a *great diminution of the number of “diseases of refraction” in children.*

“ In a very thorough examination of the school-desks and seats, Dr. Cohn found almost universally prevalent these faults : 1. They did not correspond to the size of the pupils. 2. The feet were unsupported. 3. The book was brought too near the face. 4. The seat was away from the desk (in order to allow the scholar to rise in his place), in consequence of which the body had to stoop forward very much. This was

one of the chief faults found. 5. Desk tops flat, instead of inclined. He says: 'In every class where I was present during the exercise of writing, I was able to show the teacher that the eyes of almost every scholar were but two or three inches distant from the paper, instead of a foot, or a foot and a half, as they ought to be.' His suggestions are: to support the feet; to bring the seat and the desk so near that the edge of the latter shall project an inch over the former; to make the desk from $6\frac{1}{2}$ to 9 inches higher than the seat, according to the size of the scholar; and to incline the desk top moderately.¹ The windows of school-rooms also received a good deal of attention from Dr. Cohn. He says, in regard to the quantity of light admitted, 'The number of near-sighted pupils in the twenty elementary schools is in each case proportional to the narrowness of the street, the height of the opposite houses, and the lowness of the story in the school-house in which the class is placed.'

"In regard to the use of glasses we find our author reprehending in strong terms the employment of the same pair for reading and for viewing distant objects. It is almost sure to bring on a rapid increase in the degree of near-sightedness. Bad type, fine maps, writing on slates or with poor ink, reading in bed, by firelight or moonlight, fine embroidery, etc., are also more or less potent causes; to which he adds congenital predisposition. We would point out, as another cause, the over-heating of school-rooms. It needs no proof to show that this must cause congestion of the eyes—which is one of the strongest operating causes in producing near-sightedness. But an anecdote (for the truth of which we vouch) will set this in a clear light. A lady, recently visiting one of the colored normal schools in Richmond, found a class of young girls standing against the wall, behind the stove—apparently because there was no other place to stand. They all held their books within a very few inches of their faces, and on being asked why they did so, replied that they could not see to read otherwise (which was really the case). They were sent out of doors to cool themselves, and on returning they could read at the proper distance. Precisely the same state of things was encountered in another school: temporary myopia from standing behind a stove, cured by a few minutes in the fresh air.

"Dr. Cohn found the opposite condition to near-sightedness in 239 children—less than one-fourth as many. Nor does the proportion increase in the higher schools, but the far-sighted are distributed without any seeming law."

¹ The faults, which Dr. Cohn found in German school-desks, are so completely obviated, and his suggestions so fully carried out in the AMERICAN SCHOOL DESKS AND SETTEES,—and to a certain extent in the most of our other first-class school furniture,—that it would seem like carrying coals to Newcastle to recite them here, were not the fact notorious that in the majority of our private schools, and nearly all the public schools in the rural districts, the desks and benches are as bad as they possibly can be in Germany.—ED. AM. ED. MONTHLY.

RANDOM READINGS FROM LOCKE.¹

A SOUND mind in a sound body is a short but full description of a happy state in this world. He that has these two, has little more to wish for ; and he that wants either of them, will be but little the better for anything else. Men's happiness or misery is for the most part of their own making. He whose mind directs not wisely, will never take the right way ; and he whose body is crazy and feeble, will never be able to advance in it. I confess, there are some men's constitutions of body and mind so vigorous and well framed by nature, that they need not much assistance from others ; but, by the strength of their natural genius, they are, from their cradles, carried toward what is excellent ; and by the privilege of their happy constitutions, are able to do wonders. But examples of this kind are but few ; and I think I may say that, of all the men we meet with, nine parts of ten are what they are, good or evil, useful or not, by their education. It is that which makes the great difference in mankind. The little, or almost insensible impressions on our tender infancies, have very important and lasting consequences ; and there it is, as in the fountains of some rivers, where a gentle application of the hand turns the flexible waters into channels, that make them take quite contrary courses ; and by this little direction given them at first, in the source, they receive different tendencies, and arrive at last at very remote and distant places.

—Children being more active and busy in that age than in any other part of their life, and being indifferent to anything they can do, so they may be but doing ; dancing and Scotch-hoppers would be the same thing to them, were the encouragements and discouragements equal. But to things we would have them learn, the great and only discouragement I can observe is, that they are called to it : it is made their business ; they are teased and chid about it, and do it with trembling and apprehension ; or, when they come willingly to it, are kept too long at it, till they are quite tired ; all which intrenches too much on that natural freedom they extremely affect. And it is that liberty alone which gives the true relish and delight to their ordinary play-games. Turn the tables, and you will find they will soon change their application ; especially if they see the examples of others whom they esteem and think above themselves. And if the things which they observe others to do, be ordered so that they insinuate themselves into them, as the privilege of an age or condition above theirs ; then ambition, and the desire still to get forward and higher, and to be like those above them, will set them on work, and

¹ *Some Thoughts Concerning Education.* By JOHN LOCKE. New York : J. W. Schermerhorn & Co. 2 vols. 32mo, pp. 192, 160.

make them go on with vigor and pleasure ; pleasure in what they have begun by their own desire. In which way the enjoyment of their dearly beloved freedom will be no small encouragement to them. To all which, if there be added the satisfaction of credit and reputation, I am apt to think there will need no other spur to excite their application and assiduity, as much as is necessary.

—It will perhaps be wondered that I mention reasoning with children ; and yet I cannot but think that the true way of dealing with them. They understand it as early as they do language ; and if I misobserve not, they love to be treated as rational creatures sooner than is imagined. It is a pride that should be cherished in them, and, as much as can be, made the greatest instrument to turn them by.

But when I talk of reasoning, I do not intend any other but such as is suited to the child's capacity and apprehension. Nobody can think a boy of three or seven years old should be argued with as a grown man. Long discourses and philosophical reasonings, at best, amaze and confound, but do not instruct children. When I say, therefore, that they must be treated as rational creatures, I mean that you should make them sensible, by the mildness of your carriage, and the composure, even in your correction of them, that what you do is reasonable in you, and useful and necessary for them ; and that it is not out of caprice, passion, or fancy, that you command or forbid them anything. This they are capable of understanding ; and there is no virtue they should be excited to, nor fault they should be kept from, which I do not think they may be convinced of ; but it must be by such reasons as their age and understanding are capable of, and those proposed always in very few and plain words. The foundations on which several duties are built, and the fountains of right and wrong, from which they spring, are not, perhaps, easily to be let into the minds of grown men, not used to abstract their thoughts from common received opinions. Much less are children capable of reasonings from remote principles. They cannot conceive the force of long deductions ; the reasons that move them must be obvious, and level to their thoughts, and such as may (if I may so say) be felt and touched. But yet, if their age, temper, and inclinations be considered, they will never want such motives as may be sufficient to convince them. If there be no other more particular, yet these will always be intelligible, and of force to deter them from any fault fit to be taken notice of in them, viz., that it will be a discredit and disgrace to them, and displease you.

But of all the ways whereby children are to be instructed, and their manners formed, the plainest, easiest, and most efficacious, is to set before their eyes the examples of those things you would have them do or avoid. Which, when they are pointed out to them, in the practice of persons within their knowledge, with some reflections on their beauty or unbecoming-

ness, are of more force to draw or deter their imitation than any discourses which can be made to them. Virtues and vices can by no words be so plainly set before their understandings as the actions of other men will show them, when you direct their observation, and bid them view this or that good or bad quality in their practice. And the beauty or uncomeliness of many things, in good and ill breeding, will be better learnt, and make deeper impressions on them, in the examples of others, than from any rules or instructions that can be given about them.

This is a method to be used, not only whilst they are young, but to be continued, even as long as they shall be under another's tuition or conduct. Nay, I know not whether it be not the best way to be used by a father, as long as he shall think fit, on any occasion, to reform anything he wishes mended in his son ; nothing sinking so gently and so deep into men's minds as example. And what ill they either overlook or indulge in themselves, they cannot but dislike and be ashamed of when it is set before them in another.

Begin therefore betimes nicely to observe your son's temper ; and that, when he is under least restraint, in his play, and, as he thinks, out of your sight. See what are his predominant passions and prevailing inclinations ; whether he be fierce or mild, bold or bashful, compassionate or cruel, open or reserved, etc. For as these are different in him, so are your methods to be different, and your authority must hence take measures to apply itself different ways to him. These native propensities, these prevalencies of constitution, are not to be cured by rules, or a direct contest ; especially those of them that are the humbler and meaner sort, which proceed from fear and lowness of spirit ; though with art they may be much mended, and turned to good purpose. But this be sure of, after all is done, the bias will always hang on that side where nature first placed it ; and, if you carefully observe the characters of his mind now, in the first scenes of his life, you will ever after be able to judge which way his thoughts lean, and what he aims at even hereafter, when, as he grows up, the plot thickens, and he puts on several shapes to act it.

—You will wonder, perhaps, that I put learning last, especially if I tell you I think it the least part. This may seem strange in the mouth of a bookish man ; and this making usually the chief, if not the only bustle and stir about children ; this being almost that alone which is thought on, when people talk of education, makes it the greater paradox. When I consider what ado is made about a little Latin and Greek, how many years are spent in it, and what a noise and business it makes to no purpose, I can hardly forbear thinking that the parents of children still live in fear of the schoolmaster's rod, which they look on as the only instrument of education ; as if a language or two were the whole business. How else is it possible that a child should be chained to the oar seven,

eight, or ten of the best years of his life, to get a language or two, which I think might be had at a great deal cheaper rate of pains and time, and be learned almost in playing?

When he can talk, it is time he should begin to learn to read. But as to this, give me leave here to inculcate again what is very apt to be forgotten, viz., that a great care is to be taken that it be never made as a business to him, nor he look on it as a task. We naturally, as I said, even from our cradles, love liberty, and have therefore an aversion to many things, for no other reason than because they are enjoined us. I have always had a fancy that learning might be made a play and recreation to children; and that they might be brought to desire to be taught, if it were proposed to them as a thing of honor, credit, delight, and recreation, or as a reward for doing something else, and if they were never chid or corrected for the neglect of it. That which confirms me in this opinion is, that amongst the Portuguese it is so much a fashion and emulation amongst their children to learn to read and write that they cannot hinder them from it, and are as intent on it as if it were forbid them. I remember, that being at a friend's house, whose younger son, a child in coats, was not easily brought to his book (being taught to read at home, by his mother); I advised to try another way than requiring it of him as his duty. We therefore, in a discourse on purpose amongst ourselves, in his hearing, but without taking any notice of him, declared that it was the privilege and advantage of heirs and elder brothers to be scholars: that this made them fine gentlemen, and beloved by everybody; and that for younger brothers, it was a favor to admit them to breeding; to be taught to read and write was more than came to their share; they might be ignorant bumpkins and clowns if they pleased. This so wrought upon the child, that afterward he desired to be taught; would come himself to his mother to learn, and would not let his maid be quiet till she heard him his lesson. I doubt not but some way like this might be taken with other children; and, when their tempers are found, some thoughts be instilled into them that might set them upon desiring of learning themselves, and make them seek it, as another sort of play or recreation. But then, as I said before, it must never be imposed as a task, nor made a trouble to them. There may be dice and playthings, with the letters on them, to teach children the alphabet by playing; and twenty other ways may be found, suitable to their particular tempers, to make this kind of learning a sport to them.

—Beating, and all other sorts of slavish and corporal punishments, are not the discipline fit to be used in the education of those who would have wise, good, and ingenious men; and therefore very rarely to be applied, and that only on great occasions, and cases of extremity.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.**SECTION IV.—Chemical Affinity—Acids, Alkalies, and Salts.**

CHEMICAL Affinity is that force which, acting between the atoms of different substances, binds them together and forms compound bodies, which latter have properties entirely different from those of either constituent.

In order to facilitate the action between the atoms, we generally present the substances to each other in the condition of fluids.

As the intensity of this force varies greatly with the different elements between which it acts, it often happens that a compound body is decomposed by the presentation of some substance which has an affinity for one of its constituents stronger than the force which held this latter to its associates. Such an example is said to be one of *single elective affinity*.

Exp. 24. Fill a large test-tube one-third full of water; pour on about one-fourth as much sweet-oil: observe that they keep entirely separate. Now add a little ammonia and shake the mixture. The oil no longer comes to the top. A chemical union has taken place between the ammonia, the oil, and the water, and the result is a solution of soap.

If a little sulphuric acid be now added, the oil slowly returns to the top. The acid by its stronger affinity for the ammonia has taken it from the soap, and the oil is restored to its natural condition.

It frequently occurs that when two compounds are presented to each other under favorable conditions, a mutual decomposition is the result: a constituent of each compound combining with one of the other, thus forming two new compounds. This is called an example of *double elective affinity*.

Exp. 25. Prepare a solution of acetate of lead, using fifteen or twenty times as much water as salt. Filter, if necessary, to make it clear. Add to the clear solution sulphate of soda. A white precipitate is formed, which is sulphate of lead, while the solution becomes acetate of soda.

One of the many cases of combination in which water plays an important part, is given in the following familiar experiment.

Exp. 26. Place a small lump of quicklime in a saucer, and pour on it one-half or two-thirds of the same volume of water. The lime will become hot and crumble. The powder which remains after the water has disappeared is a definite compound of water and lime, known as the *hydrate of lime*.

Heat is often applied to insure chemical union. Even when all other conditions are favorable, no reaction is noticeable until by the application

of heat a certain temperature is reached, when the union is rapid and complete.

Exp. 27. Prepare a solution of nitrate of strontia, using thirty or forty times as much water as salt. To a portion of this solution, in a test-tube, add a little of the solution of sulphate of soda. If the strontia is sufficiently dilute, no change is perceptible until heat is applied. When brought to the boiling point the white precipitate appears which indicates the formation of sulphate of strontia.

To boil liquids in a test-tube, some kind of a holder for the tube is necessary. A strip of tin half an inch wide and six or eight inches long can be converted in a moment into an efficient and safe holder. If nothing else is at hand, a stout strip of paper may be used, by folding the paper once around the tube and holding the ends between the thumb and finger. The tube, when held in the flame, should be considerably inclined.

The Properties of Acids.

The popular idea of an acid is that of a liquid with a more or less sour taste, and a property of destroying or changing vegetable colors. To the chemist, an acid is a compound having the power of forming a union with a certain class of bodies known as *bases*, and thereby forming *salts*. This is the only unvarying characteristic of acids. Many acids possess a sour taste, and nearly all will change the blue of litmus to red.

Litmus is a coloring matter obtained from the fronds of lichen. The blue solution obtained by pouring hot water upon the purple cabbage will answer equally well. The cabbage should be cut up, and the water allowed to stand on it about an hour.

Exp. 28. To a wine-glass of water add a few drops of lemon-juice or vinegar, and test the solution with a slip of blue litmus-paper, or by pouring a little of the acid mixture into another glass of water which has been colored slightly blue by the cabbage or litmus solution.

Exp. 29. Try in the same manner a glass of water that has been acidified by a single drop of nitric or sulphuric acid.

Bases.

Bases are chemical compounds which unite with acids to form salts. The bases that possess this property in the most marked degree are called *alkalies*. They have, besides the above-mentioned property, the power of restoring the blue color to litmus that has been reddened by an acid. The chief alkalies are potash, soda, and ammonia.

Exp. 30. Hold a slip of reddened litmus-paper, prepared as in *Exp. 28* or *29*, while still wet, over the mouth of an open ammonia bottle.

Exp. 31. To a wine-glass of water add a little common washing-soda,

and test the solution with reddened litmus-paper. It will indicate the presence of an alkali.

Neutralization of Acids and Alkalies.—Salts.

Exp. 32. To a wine-glass of water add about a teaspoonful of nitric acid. To an equal amount of water in another glass, add a teaspoonful of ammonia. Test the contents of both glasses to show acid and alkaline properties. In a third glass pour some of each solution, and test with litmus-paper. If the mixture fails to redden the blue paper, try a red one. If it shows acid properties, add a little of the ammonia solution. If it prove to be alkaline, add the acid solution. Repeat the experiment carefully until the new mixture has no marked effect upon either red or blue litmus. When both acid and alkali are thus neutralized a *salt* has been formed, which in this case is nitrate of ammonia.

Pour the solution into an evaporating dish, and drive off the water by a gentle heat. The slender crystals of the salt will remain in the dish.

A CONVENTION of American Philologists will be held in Poughkeepsie, New York, commencing on Tuesday, July 27th, next, and continuing in session for several days. A circular, bearing the names of nearly a hundred college presidents, professors, and other prominent educational men, has been issued, inviting the attendance of the friends of philological studies and investigation. Measures will be taken at the meeting to complete the organization of a permanent society. Papers on different branches of Philology by distinguished American linguists will be read and discussed. The time that may remain to the convention will be devoted to the discussion of the following, among other questions, relative to the position which the Study of Language should occupy in our educational system, to the best methods of Philological Instruction, and to the promotion of Philological Literature in America :

(1.) How much of the time in a Collegiate course of study should be given to the study of Language? (2.) How much of this time should be devoted to the study of Modern Languages? (3.) Should the study of French and German precede that of the Latin and Greek Languages? (4.) What position should be given to the study of the English language in our Colleges and other high schools of learning? (5.) What is the most efficient method of instruction in the Classical Languages? (6.) What is the best system of pronouncing Latin and Greek? (7.) Should the written accent be observed in pronouncing Classical Greek? (8.) What more efficient measures can be taken to preserve from destruction the Languages of the Aboriginal Indians of America?

APRIL, 1869.

A CHEAP CURE FOR A GREAT EVIL.

AN examination of the school statistics of that portion of our country which has longest enjoyed the advantage of public schools, and done most for them—the States north of the Ohio and east of the Mississippi—shows that the school-population, the school-enrolment, and the average school-attendance bear to each other, in round numbers, the ratios of seven, five, and three.

The seating-capacity of the public school-houses can only be guessed at; this important item of school statistics being omitted from all the official reports, except in the case of Wisconsin. That it is sadly insufficient is a matter of general complaint. We should estimate the number of school-sittings as sufficient for not much more than half the school-population—not the legal school-population, but the children of sound mind and body, between six and sixteen years of age, who are not educated at home or in private schools. Perhaps it does not largely exceed the average attendance: the excessive crowding of the schools of the larger cities and many rural districts, nearly if not quite making up for the empty seats in other places.

The irregular attendance of the great mass of nominal pupils is owing, we believe, very largely to insufficient accommodation. Soon after commencement, schools frequently if not generally have more pupils than there is room for—many more than the teachers can successfully instruct. As a natural consequence, the children make little progress in their studies. A day's absence now and then is found to occasion practically no great loss to the pupil, at least no such loss as theoretically there should be. The result is, that parents soon come to place a very low value on school-time—which too often, we are sorry to say, is quite up to its actual value. If there is an errand to be run, or a little household

work to be done, the child is kept at home for the day ; perhaps permanently, if the work is such as to require daily attention. This happens so frequently that in a little while the schools, though reduced to a good working-number, are so demoralized by constant losses that very little effective work can be done either by teachers or pupils. Half the time the school may go abegging for scholars, simply because there were too many to begin with—a practical paradox whose truth few teachers will fail to recognize.

To sum up : The public schools, as managed at present, are capable of doing, at best, only about half the work that needs to be done ; fully a third of the educable children of the most favored States are not reached at all by the public schools ; while as large a number of nominal pupils are in school for so brief a period each year that the good they receive is offset by the hurt they do by hindering the remaining pupils who attend school with tolerable regularity.

It is clear, therefore, that the capacity and efficiency of the schools need to be doubled. To double the number of school-houses and teachers is simply impossible. The people would not, perhaps could not, bear the expense. Not to do it, or something that will secure the same result, is to deprive millions of children of the instruction which the country can ill afford to have them go without. The problem to be solved, then, is to double the capacity and working force of the schools without incurring a corresponding increase of expense. We think that the solution can be effected, or an approximation to it certainly, without any addition to the already excessive school-taxes.

Before stating our plan, it will be necessary to notice a school reform lately begun in Germany ; that is, the abolition of all afternoon classes. The reform was brought about, unintentionally, in this way. For some time it has been experimentally optional with the head-masters to have two sessions a day or only one. The school examinations of last summer, to the surprise of many, proved that the progress made by the pupils in the different schools was in inverse ratio to the length of the daily sessions beyond the few morning hours. That is, in the schools which had only a forenoon session, the pupils showed a vigor and an eagerness to learn, that had never been known before, and their progress was in keeping with their keen and energetic assiduity. More, and more profitable, work was obtained with the half-day sessions, than when the children were

confined all day. This result is just what might have been expected. It is simply impossible for children (or adults either) to do effective brain-work six hours a day. Where so many hours of study are required, the children either idle away a large part of the time, or else break down. The latter, fortunately, is a rare occurrence,—self-deception serving in most cases to prevent self-destruction. Children think they are studying—and the teachers too, for that matter—when in fact they are merely looking at their books.

Assuming the German experiment to be conclusive and reliable, which there is little reason to doubt; and that children will learn, in the long run, as much in one session as they now do in two, the solution of our problem seems to be easy. It is this: Separate the pupils into two divisions or grades, the first to attend in the forenoon, the second in the afternoon. The result, we think, would be, *first*, a very great increase in the school enrolment—at least, such increase would be possible; *second*, a still greater increase in the average attendance; *third*, a considerable increase in the progress of the pupils. Many parents who cannot spare their children all day, could easily make shift to allow them half the day for schooling. Thus the fact that the children would be at liberty half the time would not only allow more children to go to school, but would largely prevent the irregularity and tardiness so justly complained of by teachers and school officers. The numberless little employments which now serve to keep children so frequently at home a part or the whole of a day, might easily be attended to during the free-hours,—and, we believe, would much less often be suffered to interrupt school exercises.

A plan so simple and easily tried, which so fairly promises to double the capacity and efficiency of the schools without increasing their cost, or requiring the erection of new school-houses, would, we believe, receive very little opposition,—except, perhaps, from the lazy class of parents whose ideal of a school is a place to send their children to keep them out of the way; and the selfish class, who do not care how many children are cheated out of their just share of school privileges, so long as their own children seemingly or actually receive the lion's share.

If the parents of any ward or district preferred it, the boys and girls might be taught separately, by giving one session each day to the former, and another to the latter. In this case, it would be necessary to appoint special occasions when the boys and girls would be brought into direct

competition : this being needed to keep up a spirit of emulation which, with the young, is perhaps the strongest incentive to study that can be made use of. For example, one day each week might be set apart for competitive reviews or examination on the week's work,—the boys' classes being pitted against the corresponding girls' classes. Or, half of each division of the school might be examined one week, and the other half the week following, the unemployed pupils being allowed a holiday. The interest which these occasions would excite among the children could hardly fail to reach the parents, and thus, in a manner, break up the indifference with which parents generally regard the schools.

Whatever the details of the scheme might be, and it is capable of infinite variation, we are persuaded that its advantages would greatly exceed the possible disadvantages. It is at least worthy of trial by communities conscious of the present inadequacy of the public schools to educate all the children which, unless so reached, must grow up in comparative ignorance.

THE MONTH.

THERE is a point worth thinking about in the following criticism of ordinary school-instruction, which we find in RUSKIN'S recent Lectures on Art. The latter part of the criticism is especially applicable to American teaching. We are beginning to appreciate rightly the advantages of science teaching ; but, unfortunately, have not yet learned to know and appreciate scientific teaching. We make our pupils begin where the man of science ends his studies—with systems, principles, and laws : all well enough in themselves, indeed very necessary in their proper time and place ; but they are out of place, because incomprehensible, where we put them, at the outset of instruction. We teach science as we teach literature, by authority, not by investigation ; the character of minerals, like the character of Latin words, by somebody's description of them. And worse than that, we teach their chemical constitution before the pupil can tell them by sight, or has ever made a salt.

“Our literary teaching,” says Mr. Ruskin, “has long been economically useless to us, because too much concerned with dead languages ; and our scientific work will yet, for some time, be a good deal lost, be-

cause scientific men are too fond or too vain of their systems, and waste the student's time in endeavoring to give him large views, and make him perceive interesting connections of facts ; when there is not one student, no, nor one man, in a thousand, who can feel the beauty of a system, or even take it clearly into his head ; but nearly all men can understand, and most will be interested in, the facts which bear on daily life. Botanists have discovered some wonderful connections between nettles and figs, which a cowboy who will never see a ripe fig in his life need not be at all troubled about ; but it will be interesting to him to know what effect nettles have on hay, and what taste they will give to porridge ; and it will give him nearly a new life, if he can be got but once, in a spring-time, to look well at the beautiful circlet of the white nettle-blossom, and work out with his schoolmaster the curves of its petals, and the way it is set on its central mast. So the principle of chemical equivalents, beautiful as it is, matters far less to a peasant boy, and even to most sons of gentlemen, than their knowing how to find whether the water is wholesome in the back-kitchen cistern, or whether the seven-acre field wants sand or chalk."

ONE of the English Commissioners of Education is the scholarly essayist and poet, Matthew Arnold. His latest Official report contains the following observations upon compulsory education, no small part of which applies as well to this country as to England. "I imagine," he says, "that with the newly awakened sense of our short-comings in education, the difficult thing would not be to pass a law making education compulsory : the difficult thing would be to work such a law after we had got it. In Prussia, which is so often quoted, education is not flourishing because it is compulsory ; it is compulsory because it is flourishing. Because people there really prize instruction and culture, and prefer them to other things, therefore they have no difficulty in imposing on themselves the rule to get instruction and culture. In this country people prefer to them politics, station, business, money-making, pleasure, and many other things ; and till we cease to prefer these things, a law which gives instruction power to interfere with them, though a sudden impulse may make us establish it, cannot be relied on to hold its ground and to work effectively. When instruction is valued in this country as it is in Germany, it may be made obligatory here ; meanwhile the best thing the friends of instruction can do is to foment as much as they

can the national sense of its value. The persevering extension of provisions for the schooling of all children employed in any kind of labor is probably the best and most practicable way of making education obligatory that we can at present take. But the task of seeing these provisions carried into effect should not be committed to the municipal authorities, less trustworthy with us than in France, Germany, or Switzerland, because worse chosen and constituted.

THE Pope has addressed a brief to Monsignor Le Courtier, Bishop of Montpellier, congratulating that prelate on having raised his voice "to point out the fresh snares laid against the righteous education of girls." In vain, to reassure the confidence of the Bishops, are they told that in the classes recently established, the professors have already followed a wise and prudent method for several months; in vain are they shown the protection afforded to the new system of teaching by a "very pious princess." Those guarantees, says the writer of the brief, do not in any way diminish "the vice of an institution which is preparing for society, not good mothers of families, but women puffed up by vain and empty science;" and do not in any way remove the perfidious ability with which religious education is deprecated in such a manner that error is looked upon as a condition not inferior to truth. "Every one must deplore," adds the brief, "that to the means hitherto employed to corrupt the minds of young men, are joined institutions of a nature to pervert the faith of young people of the other sex." The Bishop of Montpellier is in consequence exhorted to oppose with all his might, and with the aid of his venerable brethren and all sincerely pious men, "an evil so great that it menaces, at the same time, religion, the family, and the country."

THE movement for the higher education of women is active in Scotland. Last winter Prof. Masson delivered a course of lectures in Edinburgh on English Literature to ladies. Ninety-four, out of a class of two hundred and sixty-five, obtained certificates for written essays and answers at an examination. A similar course was delivered at Glasgow. This year three courses, of forty lectures each, have been going on in Edinburgh; one by Prof. Masson on English Literature; another by Prof. Fraser on Logic and Mental Philosophy; and the third on Experimental Physics, by Prof. Tait. From such cultivation, says the London *Athenæum*, a harvest of happy results may be reasonably expected.

EDUCATIONAL INTELLIGENCE.

AT the meeting of the trustees of the Peabody Educational Fund in Baltimore, Jan. 21st, Mr. Wetmore, treasurer, and Dr. Sears, general agent, submitted their reports of operations during the past year. Mr. Wetmore reported the fund in excellent condition. The million dollars originally given in United States bonds, have been exchanged for registered bonds, which have increased in value by the rise in public securities at least \$25,000. By the terms of the gift, Mr. Peabody stipulated that 40 per cent. of the principal might be used in establishing schools in the South; but so judiciously has the business been managed that it has not been found necessary to go beyond the interest which has accrued; the principal remains untouched. The report of Dr. Sears embraced many details of the establishment of schools. His operations last year were mainly confined to Tennessee and Arkansas. In the latter named State he established schools at Little Rock, Camden, Napoleon, Fort Smith, and at other points. He found the people ready and anxious to assist in carrying out the object of the gift. The schools which he has established, have generally been aided by a gift of from one to two-thirds the amount necessary to begin them, the remaining sum being raised by the citizens of the vicinity. Dr. Sears's manner of proceeding has been to meet and converse with the leading citizens of the different neighborhoods which he visited, and then, explaining to them the possibility of educating all their youth with but little addition to the expense required to educate a few by sending them North, he has aroused a general feeling of interest in educational matters, which invariably results in raising a good subscription. Of the schools already established many will be self-sustaining at the end of the present year.

INDIANA.—The Sixteenth report of the State Superintendent of public instruction gives the following statistics in relation to the educational condition and progress of the State. Number of children between six and twenty-one years of age, 591,661, an increase for the year of 14,652; the number of school districts in which schools were taught, 8,453, leaving 141 districts without schools. The number of children enrolled in the schools was 436,736, of whom some eleven thousand attended High-schools. The average daily attendance was 283,340, over 64 per cent. of the enrolment. The increase for the year in the number in attendance was 20,946; in the average attendance, 17,228. The average length of schools was 87 days, an increase of seven days. The number of teachers employed was—men, 6,462; women, 4,236: an increase of 450 in the former, and 195 in the latter. This would give an average enrolment of about 40 pupils to a teacher, and an average attendance of 26. The average wages of male teachers in primary schools was \$37 a month; of female teachers, \$28.40,—an increase of twenty cents a month to the latter. In high schools the wages were respectively \$64.60, and \$42—the men in this case losing \$4.80 a month, while the women gained \$4.60. The average cost of each pupil was \$1.20 a month, the whole expense of tuition being \$1,474,832, an increase of \$212,148. The school property of the State is valued at nearly six million dollars, the

increase for the year being about three-quarters of a million. There were built during the year, 424 school-houses, sixty more than were built in 1867. The number of school-houses reported was 8,403, which number should be increased by about 70, to make up for Johnson county, which made no report. Of the school-houses reported, 74 were stone; 592 brick; 6,906 "frame;" and 831 log-houses. In the last-named there was a commendable decrease of 232, while each of the others shows an increase. The amount of "Special School Revenue" expended within the year, was \$1,050,139, an increase of \$195,377. The township libraries contain 282,892 volumes, of which about one-half were taken out for use during the year. The entire school-fund of the State is \$8,259,341.34.

GERMANY.—In a letter to the *Methodist*, Dr. HURST copies from a German College paper, a statistical table of University attendance, "simplified and corrected as far as material had come to hand," to apply to the winter term of 1868—9 :

UNIVERSITIES.	No. Students in attendance.	No. Professors and other Instruct.	No. Students to each Instructor.	UNIVERSITIES.	No. Students in attendance.	No. Professors and other Instruct.	No. Students to each Instructor.
Vienna	3,074	191	16.1	Münster . . .	444	25	17.7
Berlin	2,997	178	16.83	Greifswald . .	452	56	7.9
Prague	1,442	93	15.5	Jena	432	62	7
Leipzig	1,345	122	11	Erlangen . . .	392	46	8.5
Munich	1,217	124	9.8	Innsbruck . .	391	50	7.8
Bonn	939	102	9.2	Marburg . . .	365	61	6
Breslau	923	89	10.4	Giessen	314	59	5.3
Halle	859	81	10.6	Freiburg . . .	307	47	6.4
Tübingen . . .	845	73	11.6	Berne	262	70	3.7
Göttingen . . .	824	110	7.5	Rostock	245	36	6.9
Heidelberg . .	780	110	7.09	Kiel	223	44	5
Dorpat	595	58	10.3	Zürich	177	68	2.6
Würzburg . . .	565	57	9.9	Basle	93	51	1.82
Gratz	554	54	10.3	Braunsberg . .	48	8	6
Königsberg . .	448	69	6.5				
					21,542	2,194	9.8

In the twenty-three German Universities there are :

FACULTIES.	No. Students in attendance.	No. Professors and other Instructors.	No. Students to each Instructor.
23 Theological	3,556	203	17.5
21 Law	3,794	247	15.36
11 Medical	3,353	453	7.4
23 Philosophical	4,670	830	5.6
	15,373	1,733	8.8

TURKEY.—A new law relative to public instruction has lately been laid before the Council of State at Constantinople. A great number of elementary and higher schools and colleges are to be established by this law at the expense of the State in various parts of the country, and a university is to be founded at Constantinople. Primary instruction will be gratuitous and compulsory. In Bulgaria and other Christian provinces, the language used in the primary schools is to be that of the majority of the people. In the higher schools, however, the instruction will be given in Turkish. Pupils are to be admitted without distinction of religion or nationality. The model to be followed in organizing these schools is the lyceum, founded last summer, at Galata, by the French ambassador. This last-mentioned school is thoroughly French in plan and management. The principal, vice-principal, secretary, and many of the masters, are Frenchmen, who received their appointment on the nomination of the French minister of Public Instruction. The school, therefore, cannot but tend to propagate French ideas generally. For this reason, the Pope, the Greek Patriarch, and the Sheik-ul-islam, the head of Mohammedanism in the Empire, unite in discountenancing it: the two former denouncing it as godless; the latter, with greater moderation, merely calling upon the faithful to contribute toward the establishment of a rival school where only Mohammedan boys shall be received, and where all the boys shall be taught out of the Koran. Notwithstanding this opposition, the school has made a good start. The applications for admission have largely exceeded the capacity of the school. The great difficulty of organizing into classes a multitude of youths speaking many different languages, and varying with the utmost irregularity in attainment otherwise, has compelled the admission of but sixty pupils at a time. At the latest accounts only about two-thirds of the full number had been admitted. These, classified in respect to nationality and religion stand thus: Mussulmans, 156; Armenians, 82; Greeks, 42; Bulgarians, 46; Jews, 41; Roman Catholics, 36. The school is designed to accommodate about eight hundred.

INDIA.—In forming literary and scientific institutions, the heathen Hindoos themselves take the initiative. At the head of these institutions stands the Benares Institute, consisting, like the Institute of France, of five classes: and now Lahore is to be endowed not only with an institute after the pattern of the one at Benares, but also with a university, in which all the lectures will be given in Hindustani, that *lingua franca*, which is spoken and understood throughout India, which has a literature of its own, and is perhaps the most powerful instrument of civilization in the country. Subscriptions toward the University of Lahore are flowing in at such a rate that if the Hindoos and the several nations of Europe were classed in respect to intelligence and patriotism, as measured by their liberality in founding a new university, the heathen Hindoos would stand at the top. The Government schools are less popular than they might be, owing to the mode of imparting instruction, which is European, since most of the teachers are European. This is the opinion of M. Garcin de Tassy, as expressed in the opening lecture of his course of Hindustani, at the Imperial School of Oriental Living Languages, Paris, last December. In support of this statement, he cites the opinion of a native journal, which insists that to command the attention of the natives, the

teachers must conform to the native mode of expression and illustration. Each country has its own ideas and own mode of expressing them. Orientals are fond of allegory and comparison; they dislike that simplicity of expression which is admired in Europe, and European ideas have no chance of acceptance when conveyed in plain language. Thus in teaching the history of Hindustan, a list of names and dates, such as elementary books commonly present, will never find learners among the Hindoos. The main fact must be presented along with the attendant circumstances, which set them off in an attractive and flowing style. Notwithstanding this objection, the foreign schools have succeeded beyond expectation. For instance, when the University of Calcutta was opened, there were many "old Indians" who believed that the experiment would prove a complete failure, and that the natives would refuse education at English hands. The difficulty actually experienced is, that the number of students grows too large for the resources of the institution. Over two thousand candidates entered themselves for examination last fall—ten times the number that entered ten years ago. The University has steadily gained in the estimation of the natives, as its increase in numbers would indicate.

CURRENT PUBLICATIONS.

PROFESSOR GRAY has added to his series of botanical text-books a new work¹ intended to furnish beginners with an easier introduction to the plants of the United States than is afforded by his well-known *Manual*. The new book is at once simpler and more comprehensive than the *Manual*. The language is somewhat less technical; the more recondite, and, for beginners, less essential characters have been omitted, with most of the obscure, insignificant or rare plants, which the author believes not likely to be met with or examined by students, or too difficult for beginners in that they require very critical study. On the other hand, the common herbs, shrubs, and trees of the Southern States are given, as well as those of the Northern and Middle States, and, also, all the plants commonly cultivated or planted for ornament or use, exotic as well as indigenous. This book, bound up with the author's "First Lessons," makes the best introductory text-book of Botany² for the better class of schools, and for private students, that we know.

THE African traveller, Sir Samuel W. Baker, has written a story for boys, which he calls "Cast up by the Sea,"³ the hero being introduced as an infant washed ashore from a ship wrecked on the coast of Cornwall. The career thus stormily begun is an adventurous one by land and sea; and one that can hardly fail to interest a good many of the "boys, from eight to eighty," to whom the book is dedicated. It is a pity that so interesting a book should be disfigured by such frightful "illustrations."

¹ Gray's Field, Forest, and Garden Botany.—² Gray's School and Field-Book of Botany. By ASA GRAY, Fisher Professor of Natural History, Harvard College. New York: Ivison, Phinney, Blakeman & Co. 12mo, cloth; pp. 386. pp. 236–386.

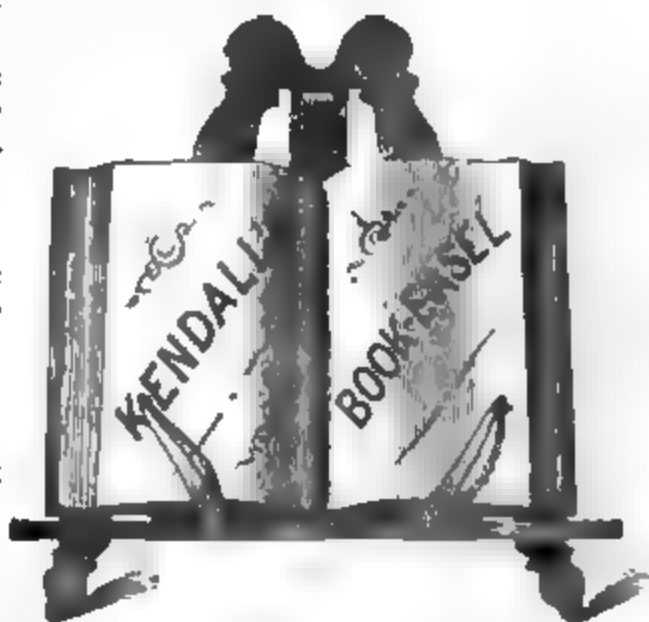
³ Cast up by the Sea; or, The Adventures of Ned Grey. By SIR SAMUEL W. BAKER. New York: Harper & Bros. 12mo, cloth, 75 cts.

THE term *hand-book*, so commonly misapplied, is applicable in its strictest sense to Dr. Hartshorne's Compendium of Human Anatomy and Physiology.¹ For the use of medical students in the lecture or dissecting room, and for those who, while studying these subjects in detail, desire to have at hand for reference or for memorizing, all that is most essential in Human Anatomy, and most positive and important in Physiology, this book will prove very convenient and useful. Lest some stupid master may undertake to make a school-book of it, we will add that it is not at all adapted to that purpose, as it was not intended for it.

KENDALL'S BOOK-EASEL.

THE accompanying wood-cut represents a book-rest constructed on the plan of Kendall's Black-board Easel, so widely and favorably known for its convenience and portability.

Of the advantage of a support for one's book while reading,—a support that will hold the book open and at the proper angle for easy vision, thus relieving the hands from the constraint and fatigue of doing what a bit of wood will do better—it is not necessary to argue. Everybody admits it, at least everybody that has ever tested the convenience of a book-rest, or given a thought to the causes of the defective eyesight so deplorably frequent among students. We hope to see the day, and that right speedily, when a book-holder will be thought as needful to the school-boy as a slate is now. One thing, perhaps more than any other, has prevented this general use of book-easels notwithstanding their admitted usefulness, and that is the inconvenience of carrying them. They have always been unmanageable, it has seemed to us, unnecessarily clumsy. As reading-stands to set on the table, they have answered very well; but since they could not easily be carried about, or conveniently held in the hand, they have been considered an occasional luxury, not an every-day necessity. In the matter of portability, Kendall's Easel is entirely satisfactory. It consists of three standards united at the top by a metallic head, which allows the outside standards to open like the legs of a compass, while the middle leg turns back. To this tripod is attached the shelf which carries the fingers or springs for holding the book open. The whole can be "unshipped" in a second, and folded flat, as easily as a carpenter's rule.



¹ A Hand-Book of Anatomy and Physiology for the use of Students. By HENRY HARTSHORNE, A. M., M. D. Philadelphia: Henry C. Lea.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

MAY, 1869.

THE EDUCATION OF IDIOTS.

THE extremes of mental strength and mental weakness are far apart ; yet intelligence and imbecility are separated by almost imperceptible gradations. Like health and disease, or sanity and insanity, there is no absolute line of separation between them. The intelligent child is originally superior to the imbecile, not, as many suppose, because he has *mind*, while the other has not ; but because he is favored with superior bodily endowments—a healthier frame, keener and more active senses, and a better ordered nervous system.

At first, all children are weak-minded, or perhaps have no mind at all. They have simply, to a greater or less degree, capacity to develop mental power, as they have to develop muscular power. Within certain limits the rapidity of a child's physical development depends, first, on his organic condition, and second, on the quantity and quality of the bodily nourishment he receives. In like manner his mental development appears to depend on his organic condition, and on the quantity and quality of his mental nourishment,—that is, the number and variety of his sense-perceptions ; every exercise of sense serving at once to increase his stock of knowledge, and his stock of mind.

With children of ordinary impressibility, growth in knowledge and mental power is in a measure inevitable. It will go on more or less rapidly without teaching, or in spite of bad teaching. And the teacher, having no means of determining in any case, just how much of a child's improvement is due to his efforts and how much to outside influences, must ever remain in doubt concerning the correctness and efficiency of the methods he employs.

With imbeciles, on the contrary, the test is absolute. The teacher must teach or the pupils will not learn. There are no outside influences

at work to retrieve or cover up the teacher's blunders. What he fails to do is never done. And no matter how faithfully he may work, if he works in the wrong way, the pupils will make no advancement. The educational problem is thus reduced to the simplest elements, and the *experimentum crucis* of an educational method is not merely made possible, but is unavoidable. The results obtained in our asylums for the weak-minded, therefore, are peculiarly instructive to the common-school teacher. It stands to reason that methods which succeed best with the weaker children are not likely to go wholly wrong when, after due extension and toughening, they are applied to those that are but a little stronger. And it is equally reasonable to suppose that methods which fail utterly with the weak in various stages of weakness, are not likely to suddenly become the best when we pass some indefinable line of separation between the moderately weak and the moderately strong.

In view of this, teachers will find much that is suggestive and instructive (due allowance being made for the haziness of the writer's metaphysical opinions), in the following account, by the *Tribune's* correspondent, "N. C. M.," of the methods which have been adopted for developing the weak intelligence of the inmates of our State Asylum for Idiots, at Syracuse.

After a few preliminary remarks concerning the Asylum building and its surroundings, the need of such institutions, and the efforts that have been made in the same direction in other places, the correspondent says :

"Having visited the Syracuse Asylum, and witnessed the success of the treatment, I could not fail to see that Dr. Wilbur, by patience, acuteness, and research, has helped form a monument which will endure as long as these poor unfortunates are to be among us. The study of idiocy is so new, and the repulsiveness of idiots such, that the common mind is repelled almost upon the naming of the subject. But, after a little investigation, new ideas will arise, and to a reflecting mind a view will be presented of a most unexpected character. For the peculiar condition of the minds of idiots corresponds to outcroppings of geological strata, and each gives a view of some of the secrets of nature which can be obtained by no other means ; and now I hesitate not to say that the study of idiocy, and, to a great degree, insanity also, furnishes facts for the basis of mental philosophy which have always been wanting, and that only upon these facts can any lasting foundations for this science be laid. In another important respect is the study of idiocy of great value. Where the objective system of education has been fairly tried, the results have been remarkable ; but to produce full results it must become so general as to react and gather strength from extension. The greatest obstacles are, first, a want of qualified teachers, and second, a realization with the public that, in consideration of our needs, and of the age in which we live, no other method deserves the name of instruction. Now, as the training

of idiots has been wholly by the objective system, and as it has produced results impossible by any other method, it is demonstrated that it is a natural system, and one to which the benefits should be extended to our children.

“The pupils of this Asylum are separated according to their condition. I was introduced into a room containing about fifteen pupils, to whom the teacher was imparting the most elementary instruction with reference to common objects. Their dress was neat and plain, the room was clean, the air pleasant, and though these children showed a low condition they gave good attention. A block with many holes is to be filled with iron pins for one lesson ; another lesson is to string button moulds ; another, to place square and other shaped blocks within correspondingly shaped receptacles ; another, to string white and colored beads, one, two or more of each, up to five ; another, to place colored balls within cups of corresponding colors, and another, to place skeleton pieces of paste-board so as to make an object like one before them. Some reading is taught by presenting picture-cards with printed words, which were pronounced. Spelling seems not to be taught at all, and it is acquired insensibly, which seems to prove that there is some foundation in the assertion of certain teachers that the spelling-book is the worst book that can be put into a child's hands. When any act is done wrong it is to be done over, and often the pupil corrects himself as readily as an expert clerk, when he mistakes in a reckoning. The teacher showed the word ‘Mitten’ on a card, and the pupils named it correctly. ‘What is it for?’ ‘To wear.’ ‘When, in Winter or Summer?’ ‘In Summer.’ ‘O, no.’ ‘In Winter.’ Writing commenced by drawing lines between two points on a blackboard, then other lines, and there are slates with lines at right angles for a guide.

“In another room were children of a still lower grade. They were seated on benches around the walls, and for the most part they were stupid—almost demented. I noticed a boy in particular, who had a nice forehead, and he seemed every way proper, but he had a bodily infirmity which affected the nerves, and so long as that continued, mental development would be impossible. A girl looked at the sunlight and laughed as continuously as a dog barks toward the sky. Idiocy may be defined as a disease of the media of sensation, and not at all as a mental defect. The lowest case will scarcely see, hear, feel, taste, or smell, and a common primary treatment is to place the child in a room where strong rays of light are introduced through the shutters, when blocks or other objects are given it to play with ; it is watched to see what it will do, and whatever sense is first, or most manifested, is seized upon as a base for development.

“Dr. Wilbur gives account of one case which illustrates the method

of development, and it seems to me to illustrate mental phenomena in a most remarkable manner. This was a girl eight years old, slender and well formed, belonging to an intelligent family. Sensation generally was so inactive that no distinct impressions had been conveyed to the brain. If pricked with a pin, she screamed, but she did not shrink. When her eye-ball was touched, she did not wink. She could neither walk nor stand, nor could she sit unless supported ; and much of the time she kept her hand in her mouth. If her chair was suddenly tipped over, and caught, before it touched the floor, she did not move a muscle, for she did not know that she could fall. An infant has this knowledge in an early period of its life. She could hold nothing in her hand, and the only semblance of will was in throwing herself backward with convulsive motions when angry. Tones of endearment or of displeasure made no impression upon her, and the only imitation or reflex faculty she ever exhibited was imperfectly to utter what appeared to be musical sounds. For a long time she had been fed on sponge-cake and weak tea, but it was necessary to place this food in the back part of her mouth, or she would not swallow, for her tongue was without taste. Besides, she was without the active sense of touch. Thus she was a human being without any of the senses, and she exhibited a condition not only much lower than that of a common new-born infant, but lower even than any young animal. Still, there was an interior sensation, and all the involuntary and automatic phenomena were perfect, else the processes of nutrition and of waste could not have been carried on. These powers, however, are independent of outward sensation, and they are only in a remote degree connected with mental action ; and yet their objective and subjective are similar to the corresponding manifestations of sensation and mentality. The Rev. George Bush used to call this interior phenomenon the soul, or the motherly housekeeper. Let us trace, now, the development of sensation and the consequent struggling dawn of ideas, and we will gather some notion of the manner in which are laid the foundations of the mind, which, afterward expands itself so wonderfully among many wonderful achievements as to be able to react upon the world, to become conscious of the far-reaching laws of nature, and in its audacity to weigh the planets as in a balance, and to measure the distance through which light had been travelling from a period before the commencement of the world.

“The first step with this poor girl was to commence with that which was definitely known, and nothing was definitely known to connect the exterior with the interior, but taste, and this at the back part of the mouth. With sponge-cake held on a fork, it was withdrawn in what may be called lessons, more and more outward, a little distance at each lesson, and it was found that the taste followed, until at last it reached the tip of the tongue, and was transferred thence to the inside of the mouth. During

this instruction she would move her head that the food might come in contact with the locality where taste was best established, and next she learned to raise her head for this purpose. If too much was exacted she drooped discouraged, but the teacher yielded a little, and she responded. The next lesson commenced by placing her standing against the wall, with smooth oil-cloth beneath her feet, while the doctor sat in a chair before her, with one hand against her breast to prevent her falling, and with one hand against her knees to prevent them from bending, when, for the first time, her limbs supported her body. Then with his foot he drew out her feet a little, making her position uncomfortable, but soon they were shoved back. After this had been repeated several times, she, at last, to the doctor's joy, slightly drew back one foot herself. After a few more lessons, she learned to step back and forward. Next, her body was moved to one side, when, remembering how she became comfortable by moving her foot, she moved her body herself, and stood erect. To secure other proper positions of the body, she was placed in a large-sized baby-jumper. Thus the lessons went on until she learned to stand, to walk, and to sit down, and finally to follow the other pupils to and from the dining-room. In bringing her hand under her will, hot, cold, smooth, rough, light, and heavy objects were placed in it, and as a result the idea at last dawned that she had a hand. She was not able to see, because the pupils of her eyes did not contract and dilate. To excite action, objects were made to flit before her eyes, then there were sudden changes from light to darkness, and at last she came to see objects which were not too remote.

“With other pupils who are deficient in sight, but can hear, the eye is strengthened by closing the ears, while conversely, if hearing is deficient, the eyes are bandaged; which proves that, to some extent, these senses are interchangeable. Sometimes it is necessary to educate the eye that it may learn to fix the visual angle properly, according to the distance of an object. A large proportion of idiots are speechless. Although speech is perhaps one of the most important of man's powers, it is least elementary of any, for the power to speak is based upon ability to hear; hence, language depends more upon the ear than upon the tongue. Speaking commences with consonants, not with vowels, and with those that are uttered by the lips, and are called labials. It is a help to see the lips move. Still, even the use of consonants is preceded by signs, whatever may be the condition of the individual.

“Another important help is muscular exercise, and to secure this there is a great variety of devices, and not the least is light gymnastics. It may be said that, without exception, idiots are deficient in physical powers, and that their disability is not mental, but physical. Few or none can walk well, or stand firm and straight. To stand well on one's feet, and

to be possessed of firm and flexible muscles, would seem to be a preliminary for what is called a sound mind, or, at least, for one capable even of development. In securing physical exercise for these unfortunates it is found that the mind becomes receptive of ideas ; and it seems proved that in early life ideas depend upon sensation. Laura Bridgman, who was blind, deaf, and dumb, was taught the finger alphabet, and when she dreamed by night she moved her fingers.

“After the muscles and nerves have been brought into action, that is, after the senses have begun to build up or elaborate those ideas which, in the uses of life, are to become automatic, the surest way for reflex ideas to become established, and to increase the will, and grow in the mind qualities superior to animals, is to teach habits of useful industry ; and these, rightly considered, make the primary element in a constructive and creative being, no matter how exalted he may be. Accordingly, so soon as practicable, the boys engage in farm and garden work, and in the care of animals, while the girls learn to knit, sew, make beds, set the table, and take care of younger children. When work is done wrong, the person in charge will direct it to be done over. One in a low condition learns much from the one next above, and the children watch each other, and they are quick in observing those who are inferior, while they are officious to give instruction. In any human being, therefore, mentality is not a question of fact, but of degree. About two-thirds of the girls learn to knit, sew, and do other work, while some become quite skilful. There is a like progress with the boys, and the aggregate value of their labor is equal to that of the entire production of the farm and garden. A fair percentage of both sexes have been sent to their homes as positively useful if not trusty members of their families. It is to be noted that four young men who had been instructed at this institution, and brought up from a state of helplessness, entered the army, and served their country with honor. The percentage of cases which no skill nor device can reach, in the direction of making them useful, is about one-sixth ; and there is no hope because they are subject to organic bodily diseases which deprive the nervous system of the firmness required for securing a free communication between the outward and the interior. Of the improvable cases each differs, and special treatment according to condition is required.

“Among the details of instruction for securing development, an important step is to establish the will, for until this is done no use can be made of ideas. In the highest sense, the will is the conclusion to which the mind comes after considering ideas which have been presented to it, during a state of unconsciousness. In a less sense the will is based upon ideas connected with sensation while considered in a partially conscious state ; but there are various conditions of will, and its force depends upon

the number and clearness of the ideas. We might say, too, that will is an outgrowth or a fruit of ideas. After all, this is a branch of mental philosophy which presents difficulties of the most perplexing nature. It is certain that the great class of idiots have no will ; and the same is to be said of young children. When a mother attempts to break what she calls the will of a child, she mistakes ; for, if she succeeds in establishing a resolution, she helps create a will, she does not break it. In first calling out a will, it is a necessary preliminary to arouse the muscles to action. They have a simple device in a small bag nearly filled with beans. A pupil is seated, and the teacher commands him to catch it. He will pay no attention : the bag is then tossed into his face. When the pupil sees the bag coming again, he is certain to raise his hands to protect his face ; if he do not, it is thrown with such force that he will take the hint next time, and thus, after a few or many lessons, he will catch it. This is a point gained, and now the bag is thrown with still greater force ; the pupil is beginning to learn that there is work on hand, he squares himself, his eyes quickly settle with determination, and in preparing himself to catch it, he prepares himself for what is analogous to destiny. In short, he is waking up, he is strengthening himself with will. Meanwhile, there is another lesson in connection, or, perhaps, it is with a feebler pupil. The bag is put in his hand, and he is told to throw it. A comparatively heavy weight is held much more easily than a light one, as if by some attraction. Perhaps he will scarcely move his arm to throw it, or, if he does move it, he will swing it to and fro, still holding the bag, having no will to incite him to throw it. In this case an attendant will come behind him, and give his hand a sudden impetus, and away the object goes. This is one of the most elementary devices for establishing will.

“ Thus, from a low starting-point, with short steps, a step at a time, and with slow progress, development commences, and within the limits fixed by the capacity of the pupil, education is full as certain as in any of our schools. An only son, eight years old, was admitted, not wholly as an idiot, but certainly as one feeble-minded ; he could make no progress at school, he had an impediment in his speech, and he was excessively timid. His mother had taken great pains with him, and he could read a little. In the Asylum he was no longer overawed by superiority, he was taught one thing at a time, and no faster than he could understand it, and after eight months’ instruction he went home. Then he entered a school, the primary department of which was graded by five divisions, and an academic course was attached.

“ In the usual time he passed through these five grades, without having been once reprimanded, and of only three boys who were qualified for entering the higher department, he was one. The educators of our land should suspect, from this illustration, that their system for beginners is

frightfully defective ; that their pupils violently tear through obstacles which they cannot overcome, and that in consequence of so doing they are ever afterward unfitted to adopt natural and best methods of investigation. There are crowds of half-educated men and women in our land who do not know that the reason why they are useless and powerless is because what was supposed to have been an opportunity was an engine of stultification. It will be the universal testimony of children in our schools that they think themselves dull. Could they have the advantages of the objective system taught in this Asylum, this idea would seldom enter a scholar's head.

“Idiocy is not often in this country, as in Europe, hereditary, but it may be an indication of degeneracy in families, as is also insanity. Many children become idiots after fits of sickness, and sometimes from injudicious medical treatment. It is never accidental before birth ; but why it should occur in a family where other children are bright, it is difficult or improper to explain. Dr. Wilbur says that as a result of marrying relations it is less common than supposed ; but he confesses that this differs from the generally-received opinion. Intemperance, scrofula, the marriage of those who are similar to each other, whether related or not, are causes.

“In the study of idiocy, an opportunity is presented to study the human mind, because there are marked intervals between the time when sensation is excited and the formation of the idea, and the process of the building up of the human mind is perceived to such an extent as to show that a part of the mind comes into existence after the birth of the body ; indeed, that every new image is equivalent to a new birth. It would seem, also, that there could be no mind until a connection is formed between the senses and the brain, were it not certain that the senses are also connected with the spinal marrow and the various nervous centres, and also that they are in full operation before there is consciousness. There are many strong evidences that there is an invisible body contained in the visible body. When the most demented idiot is at last made to receive ideas, these ideas, so far as they go, do not differ from the ideas of the brightest child. Whether we have innate ideas has been questioned, but it cannot be doubted that the faculty which receives ideas is innate ; that it is derived directly from parentage, and that the body grows and crystallizes around it ; for not even a limb of the body could be formed if there were no interior pattern. Not only are the relations of the mind to the body exceedingly complex, but the mind itself is subject to conditions wholly unlike any of which we are conscious. Finally, the mind is independent of the outward world except when in communication with it through the senses, and it bears the same relation to the body that the fruit does to a tree, hanging by a slender stem.”

FOREIGN EDUCATORS DECEASED IN 1868.

JOHN DAVID MACBRIDE, D. C. L., F. S. A., died at Oxford, January 24th, aged 89 years. He was graduated from Oxford University in 1799, and soon after elected a Fellow of Exeter College. Remaining a resident tutor, he became M. A. in 1802, D. C. L. in 1812, and the same year succeeded to the Assessorship of the Chancellor's Court. In 1813 he was appointed Principal of Magdalen College, and, the same year, Reader in Arabic. He held these two offices till his death. He was the author of several theological books, some of which were used for many years as text-books in the University.

On the 28th of January, ADALBERT STIFTER, an accomplished German scholar and novelist, died at Linz, on the Danube, aged 62 years. He was educated at the Gymnasium of Kremsmünster, and the University of Vienna. He devoted himself for some years to landscape painting, in which he greatly excelled, his landscapes being to this day much prized by connoisseurs. At the age of 27 he commenced writing fictions, and soon attained a great popularity by his admirable powers of description. In 1840 he was appointed by Prince Metternich tutor to his son Richard (the present Prince), to whose instruction and improvement he devoted himself very sedulously for ten years. He was then appointed *Schulrath* (Commissioner of Schools) for Upper Austria, and removed to Linz, the capital of that province, where he died.

WILLIAM HERAPATH, an eminent chemist and toxicologist, well known for his evidence in the Palmer and other cases of murder by poisoning, died at Bristol, England, on the 6th of February, aged 71 years. He was one of the founders of the London Chemical Society, and of the Bristol School of Medicine, and had been for many years Professor of Chemistry and Toxicology in the last-named institution.

On the 10th of February, SIR DAVID BREWSTER, one of the most illustrious names in connection with physical science, died at Allerly, near Melrose, Scotland, aged 87 years. In 1800, when but 19 years of age, he received the honorary degree of M. A. from Edinburgh University, and in 1807 the degree of LL. D. from the same source. The same year he became a Fellow of the Royal Society of Edinburgh, and projected the great Edinburgh Encyclopædia, of which he was editor till its completion in 1830. Elected Fellow of the Royal Society of London in 1813, he contributed numerous valuable papers to its transactions, and received more of its medals than have been awarded to any other one man. He edited scientific magazines, made discoveries in Light and Electricity, wrote scientific works, popularized science, was Principal of the United Colleges of St. Leonard's and St. Salvator at St. Andrew's

University, from 1833 till his death. From 1859 to 1868, he was Principal and Vice-Chancellor also of the University of Edinburgh. So long and ample a series of benefactions to education and science, few men have had the ability to make.

Dr. B. B. BAKER died at Malta on the 20th of February. He was for several years director of the College of Corfu, and Professor of English Literature in the Ionian University. During the administration of Sir Henry Storks in Malta, he rendered much assistance to the cause of education, particularly as one of the examiners in competitive examinations, and as a member of the commission appointed to inquire into the instruction given in the Lyceum and primary schools of Malta and Gozo.

On the 25th of February, Dr. LUDWIG TURCK, an eminent professor of the pathology of the Nervous System, in the University of Vienna, died in that city, aged 56 years. He had held a professorship in connection with the general hospital for almost thirty years, and was regarded as the highest living authority on the minute anatomy of the brain and nervous system. He was also, in conjunction with Czermak, the inventor of the art of laryngoscopy, or the visual examination and surgical treatment of the larynx.

On the 11th of March, J. VANDER HÖVEN, Ph. D., Professor of Zoology in the University of Leyden, Holland, died at Leyden, aged 67. He ranked with Owen, Huxley, and Cuvier, as a thoroughly accomplished zoologist. He was a member of most of the scientific societies of Europe, and author of several treatises on the vertebrate and invertebrate animals.

Rev. ROBERT LEE, D. D., Professor of Biblical Criticism in the University of Edinburgh, died at Torquay, March 15th, aged 64 years. Dr. Lee was born at Tweedmouth, and educated at Berwick-upon-Tweed, and the University of St. Andrews. Having a high reputation for learning and eloquence, he was called to Edinburgh in 1843, and, on the creation of a chair of Biblical Criticism and Biblical Antiquities in the University in 1846, he was appointed the first professor, and held the position till his death. He was the author of numerous works, mostly theological or religious.

Madame HENRIETTA FELLER, an accomplished Swiss lady, the widow of a Swiss professor, and herself a successful teacher in Switzerland, and subsequently a missionary and teacher among the French Canadians, died at Grand Ligne, Canada, on the 27th of March. Her age was about 80 years. She came to Canada in 1835, and established the Grand Ligne Mission and Schools, which have been wonderfully successful. She deserves honor for her remarkable philanthropy and self-sacrifice.

M. VALLET DE VIRIVILLE, an eminent French Archæologist and writer on Education, died in Paris, some time in March, aged 53 years. Besides

numerous works on archæological subjects, especially relating to France and Egypt, he prepared an exhaustive treatise on the "History of Public Instruction in Europe, and especially in France," which was crowned by the Institute of France in 1851 and published in 1852.

Rev. JOHN HOTHERSALL PINDER, canon of Wells Cathedral, died at West Malvern, April 16, aged 74 years. He was a graduate of Cambridge University, having taken his first degree in 1816, and his second in 1824. He resided for some years in Barbadoes, where he was Principal of Codrington College; subsequently being made a Canon Residentiary and Prebendary of Wells Cathedral, he became Principal of Wells Theological College. He resigned this office in 1865, in consequence of declining health. He was the author of several theological works.

On the 23d of April, Rt. Rev. RENN DICKSON HAMPDEN, D. D., Lord Bishop of Hereford, died in Eaton Place, London, aged 75 years. He was educated at Warminster and Oriel College, Oxford, taking his first degree in 1813. Soon after he was elected to a fellowship in his college. After about ten years' service as a curate, he returned to Oxford as college tutor, in 1828; was appointed examiner in the schools 1829-1832, and in 1832 was selected to preach the Bampton Lectures. In 1833 he was appointed Principal of St. Mary's Hall, and in 1834, University Professor of Moral Philosophy. In 1836, on the death of Dr. Benton, he was made Regius Professor of Divinity in the University. In 1847 he was made Bishop of Hereford by Lord John Russell. Though quiet and laborious in the performance of his duties, he was never very popular. He was the author of many able articles on educational topics in the *Encyclopædia Britannica*.

Rev. T. S. CRISP, D. D., died at his residence, Cotham, Bristol, Eng., on the 16th of June, at the age of 80 years. In 1818, he was called to Bristol to become co-pastor with Dr. Ryland of the Baptist church in that city, and joint tutor or instructor of the Baptist College at Stoke's Croft. He had been educated in one of the Independent Colleges, and had a high reputation as a scholar. On the death of Dr. Ryland, he became President of the College. He remained in his twofold relation of co-pastor and college president through life. Among his associates in the pastorate and college, were John Foster, Robert Hall, Summers, Roberts, and others. The reputation of the college for high and thorough scholarship was always maintained during his presidency.

G. A. WALKER ARNOTT, M. D., Professor of Botany in the University of Glasgow for many years, and author of some valuable works on Botany, died in that city on the 17th of June.

CARLO MATTEUCCI, professor, physicist, statesman, and author, died at Leghorn, Italy, on the 24th of June, aged 57 years. Born at Forli, edu-

cated at Bologna and Paris, professor first at Bologna and afterward at Pisa, the most noted electrician of the age, and discoverer of many important facts in electro-physiology; he early became one of the foreign associates of the French Institute, received the Copley medal of the Royal Society of London, and the great prize of the French Academy of Science, was active in the promotion of the electric telegraph, and published numerous lectures and treatises on matters connected with his specialty. He entered political life in 1848, was a liberal senator and statesman, and from 1862 was minister of Public Instruction in the kingdom of Italy.

Rev. ROBERT VAUGHAN, D. D., an English clergyman, professor, college president, editor, and author, died at Manchester, Eng., in June, at the age of 73 years. He was educated at Bristol college, was pastor of an Independent chapel at Kensington, London, and on the establishment of London University, was appointed Professor of Ancient and Modern History. In 1842, when the Lancashire Independent College was removed from Blackburn to Manchester, he became its president, and for fifteen years filled also the chair of theology. In 1857 he was compelled by impaired health to resign the theological professorship. He was the founder of the British Quarterly Review, which he edited from 1844 to 1866. He was the author of numerous works, mostly of a historical character.

In June, also, died Professor JULIUS PLUCKER, the most accomplished and learned of the professors of the University of Bonn, at the age of 57 years. He was equally eminent as a mathematician and physicist. For about thirty-five years he had been wholly absorbed in his scientific researches and his professional duties. He was a foreign member of the Royal Society of London, and in 1866 received its Copley medal. His published works are mainly on mathematical and philosophical subjects.

JOHN ELLIOTSON, M. D., a learned but somewhat erratic physician and medical professor, died in London, July 29, aged nearly 80 years. He was a native of London, educated for the medical profession at Edinburgh and Cambridge. He was elected physician of St. Thomas Hospital about 1825, and gave clinical lectures there, introducing many new members. In 1831 he was appointed professor of the principles and practice of medicine in London University, and attracted large classes by the brilliancy of his lectures. In 1837 he became interested in mesmerism or animal magnetism, and proclaimed its curative powers so zealously that he was compelled to resign his professorship. He afterward established a hospital for mesmeric treatment, and edited a journal, the *Zoist*, in advocacy of his theories.

September 4th. CHRISTIAN FRIEDRICH SCHÖNBEIN, Ph. D., a German chemist and physicist, died at Baden-Baden, aged 69 years. He was

educated in Wurtemberg and London, being a friend of Faraday in the latter city. He became professor of physics in the University of Basle, Switzerland, in 1828, and held the professorship till his death. He discovered ozone, ant-ozone, gun-cotton, and collodion—enriched science by several treatises on different topics of physical science, and died universally esteemed and lamented.

Rev. EDWARD BÖCKLEN, a native of Wurtemberg, an eminent scholar, Principal of the Alexander High School, Harrisburg, Liberia, died at Monrovia, Liberia, on the 29th of September, aged 39 years.

Rt. Rev. FRANCIS JEUNE, D. D., Lord Bishop of Peterborough, died in September, at Peterborough, England. He was a graduate and Fellow of Pembroke College, Oxford, where he attained to a first-class rank. Soon after his graduation he was appointed public examiner and tutor of his college; then tutor in Canada of Lord Seaton's sons; next head of King Edward's School at Birmingham; then Dean of Jersey, and in 1843, Head-master of Pembroke College, which office he held till 1864, being for ten years also Vice-Chancellor of the University. In these positions he accomplished more than any other man has done, in the way of University Reform and improvement. He was elevated to the See of Peterborough in 1864.

In the same month died in London, JOHN REYNOLDS, for more than fifty years a teacher, author, and educational reformer of London, aged 76 years. His school in St. John-street, London, was large and always popular. He was one of the founders of the London Mechanics' Institute, a constituent member of the College of Preceptors, and originated the Botanical Society of Regent's Park.

On the 6th of December, AUGUSTE SCHLEICHER, an eminent German philologist, author, and professor, died at Jena, aged 48 years. He was educated at Leipsic and Tubingen, being a pupil, at the latter University, of Ewald, under whom he studied the Semitic languages. He subsequently devoted himself to a long course of philological study at Bonn. He first became a professor at Prague, and afterward at Jena, where he had the chair of Philology and Comparative Grammar.

In December also, FRIEDRICH GOTTLIEB WELCKER, another eminent German philologist, and an instructor of the preceding, died at Bonn, aged 84 years. He was the last of the older philologists who have done so much for the promotion of a knowledge of Oriental literature and languages. He had been professor of philology at Bonn for nearly 50 years.

THEY who have to educate children should keep in mind that boys are to become men, and that girls are to become women. The neglect of this momentous consideration gives us a race of moral hermaphrodites.

WORMAN'S "COMPLETE GERMAN GRAMMAR."

BY PROF. GUSTAVUS FISCHER.

THE curiosity awakened when we commenced reading this last addition to the list of German Grammars,¹ soon gave way to utter amazement; not, however, as the reader may suppose, on account of any excellence of the work, but on account of the multitude of blunders it contains. Indeed, in view of the number and character of these blunders—the very combination of which would appear to require an unusual skill in that line—it seems almost like a joke, to have Mr. Worman profess in his preface a special indebtedness to such names as Grimm and Becker.²

The evidences of Mr. Worman's bad grammar extend through all parts—declension, conjugation, formation of words, pronouns, prepositions, gender, construction of the verb, use of the cases, tenses, moods, conjunctions, position, signification of words, and even pronunciation. So well is he acquainted with German, that he does not even know to what part of speech belongs the very name of the language of which he has been cool enough to compile a grammar, and the very name of the nationality of which, we are sorry, he is a member.

NATIONAL NOUNS,³ he says (p. 73), are formed from the names of countries by adding *er*, and their feminines by the addition of *in*. Among the exceptions, which irregularly end in *e*, he mentions: *Der Deutsche, der Grieche, der Russe*, etc., and adds as the only exception to national feminine appellations, the German *woman* or *lady*, *die Deutsche*. But supposing that Mr. W. had been asked in German, by any one of his pupils, what countryman he was? He would certainly have replied: *Ich bin ein Deutscher* (not *ich bin ein Deutsche*; as he might have said, *ich bin ein Schwabe, Böhme*, etc., but not *ein Schwaber* or *Böhmer*). In fact, Mr. Worman does not know that his own national appellation *Deutsch* (instead of *deutisch, thiudisc* in old German) is an adjective, and not a noun, just as the word "English" is; and that hence his exception regarding German "ladies," though he has transcribed it from Otto, is not worth the paper on which it stands.

¹ A Complete Grammar of the German Language, by James H. Worman, A.M. New York, A. S. Barnes & Co.

² The writer of this review would solemnly protest, in the name of his teacher, Grimm, against such a desecration of his beloved name, if the very idea of an indebtedness between James Worman and Jacob Grimm for anything, except perhaps the first name, were not so utterly ridiculous. He can prove that Mr. W. has not even *read* Grimm, and that in the few places where he has attempted to make use of Becker, he has utterly misunderstood and spoiled him.

³ He says "national masculine appellations," but *means* national nouns.

That he, in fact, cannot form national nouns he shows by the word *Genuenser*, which he suggests on page 274; and that he cannot form compound nouns he shows by his „*Uhrenschlüssel*“ (instead of *Uhrschlüssel*), which he uses on p. 28. That he does not know what a collective noun is, he shows by his declaring the word „*die Juden*“ (the Jews) to be a collective noun (page 394).

He does not know how to decline nouns; else he would not form the genitive „*des Baron von Rütom*“ (page 215), or „*des Nerven*“ (page 46), or „*des Generals*“ (instead of *Generals*) in the paradigm (page 50); nor would he form plurals of words having no plural, as *Spielzeuge*, toys (page 95), nor deny existing plurals, as *Brote*, of *Brot* (page 63), nor form wrong plurals, as, *Landmänner*¹ (page 28), *Stiefeln*² instead of *Stiefel* (page 282), *alle Abend* instead of *Abende* (page 399), *die Newtons* instead of *Newton* or *Newton's* (page 70), nor use the plural „*Leute*“ against the rules—*mindestens tausend Leute* instead of *Personen* (page 365).

That he is ignorant in regard to GENDER appears from his „*das Thermometer*“ instead of „*der Thermometer*“, page 282, and „*das Chor*“ in the vocabulary.

He does not know how to form ADJECTIVES, else he would not say „*in der gestern Nacht*“, page 283; nor how to use them, else he would not expressly declare the horrible phrases, „*Ich habe warm, ich habe kalt*“ to be correct German (page 313); nor how to decline them, else he would not say *an heller lichtem Tage*,³ and *an ein und demselben Tage* (p. 356 and p. 394); nor how to compare them, else he would know the difference between the adjective and adverbial superlative, and not say: *Welches Metall ist am härtesten* (instead of *das härteste*), or: *Welches Volk des Alterthums war am tapfersten* (instead of *das tapferste*), page 145.

He does not know how to use the ARTICLE, else he would not assert (page 194), that in the phrase „*zur selben Stunde*“ *no article* is contained, nor would he say „*in letzter Zeit*“ instead of „*in der letzten Zeit*“ (or rather *seit kurzem*), on page 356.

As for the declension and employment of PRONOUNS, he lacks even the knowledge of the very first rudiments. He makes *wasu* the dative of the relative pronoun *was*, in the very paradigm (page 200), and „*was*“ the dative of the interrogative „*was*“ (p. 209), showing that he does not know that a dative of „*was*“ never can be formed. He forms the phrases: „*Was Gold*“, „*was Edelstein*“, in the meaning „what a quantity of jewels“ (p. 209); rejects the apostrophizing of the pronoun *es* into 's

¹ Mr. Worman might as well form the plural *Bermänner* of his own name.

² This is a Berlin vulgarism.

³ Another Berlin vulgarism.

⁴ A North-German vulgarism.

as improper (p. 179);¹ and shows that he has no idea of the use of relatives, by giving to his students the following model: „Dieser Mann ist derjenige, weswegen wir nach Berlin reisten,“² instead of wegen dessen (p. 339);³ by misapplying the relatives *daß* and *welches*, and sanctioning connections, as: *alles daß*, *vielleicht daß* (instead of *alles was*, *vielleicht was*, etc.), page 220, and *daßjenige welches* (instead of *was*), p. 204.⁴ He misapplies the personal pronouns by proposing phrases like: „Er ist ein Freund von mir“ (page 190), instead of *mein Freund*, or *einer meiner Freunde*. He does not know how to decline *viel* and *wenig*, else he would not propose phrases like: „Mancher trinkt vielen Wein,“ and „daß weniger Wein unverfälscht sei“ (p. 161), assigning respectively to these execrable expressions the meaning of many and few *sorts* of wine.⁵ Nor does he know the meaning of the indefinite pronoun „ein anderer,“ else he would not form the sentence „wir brauchen eine andere Viertel Elle“ (another quarter of an ell), instead of *noch eine Viertel Elle* (page 254). He does not even know what a reflexive pronoun is, else he would not declare the English *himself* (*selbst*, Latin *ipse*, French *même*, as he adds) in the phrase “the physician himself” to be a *reflexive pronoun* (page 182).

His ignorance in CONJUGATION is, if possible, more astounding yet. While he forms the imperfects „mühl“ of *mahlen* (page 230), „befleiß“ of *befleißigen* in the very paradigm of this word (p. 303), *brösch* of *bröschchen* (p. 241), *wog* of *wägen* (p. 263), *saugte* of *saugen*⁶ (p. 263), *rad* of *rädel* (p. 262), *beslomm* of *beslommen* (p. 257), *verworr* of *verwirren* (p. 261), he declares „sendete“ a *poetical* imperfect (p. 240). He forms the imperatives „schelte“ (p. 245) and „nehme“ (270) instead of *schild* and *nimm*, but denies the existence of the imperative *wolle* (p. 109), and is unacquainted with the passive voice of the verb *lehren*⁷ (p. 368). But he does not even know how to use the most common verbal endings *et*, *ete*, in regard to which he leads the student into a perfectly inextricable labyrinth, as a glance on his paradigms will show. While he expressly insists upon the use of the „e“ in these endings, in forms like *belohnete*,

¹ Which does not prevent him from using it occasionally himself, as: *Was glebt's Neues*, page 314. Mr. W. ought to remember, that he is not a lawgiver in matters of grammar. This would do perhaps in the mouth of Grimm or Becker. But *quod licet Jovi, non licet bovi*.

² Which ought to be „gerüst sind.“

³ Another North-German vulgarism.

⁴ That he is totally in the dark concerning the force of the German relative *was* appears from his statements page 220, according to which *Alles daß* must be translated by *all* (*Alles daß ich habe*, all I have), and *Alles daß was* by *all that*. Thus Mr. W. has no idea of the elementary German rule that after absolute indefinite pronouns the relative *was* alone, and not *daß* or *welches* or *daß was* must be used. Hereby he shows clearly with what success he has studied his Becker. It is true, Otto's grammar brought him to this fix. And indeed every one of Otto's blunders is *bona fide* copied by Mr. Worman. Beyond Otto, Mr. W.'s knowledge does not seem to reach.

⁵ Showing that he has neither an idea of the meaning of *viel* and *wenig*, nor of the singular of *Betz*.

⁶ He states that *saugen* is also conjugated regularly.

⁷ Although he needs it so much.

rühmete, ertönete (obs. V. p. 165), he forbids forms like brauseten, harrete, etc., and nevertheless he himself says belohnt (p. 175), berühmt (p. 195), ertönte (p. 387), brauseten (p. 256), harrete (p. 267), and nahete (p. 425).

The auxiliaries *haben* and *sein* are constantly mixed up and misapplied. Thus he conjugates *hängen* (p. 231), *erschrecken*, to frighten (p. 240), *gähren* (p. 263), *saugen* (p. 263), *rinnen*, to leak (p. 273) with *sein*, and *verderben*¹ (p. 240), *weichen*, to yield (p. 249), *schmelzen*² (p. 259), *gelingen* and *schwinden* (p. 269) with *haben*. The verbs *bersten* and *sieden* according to his *rules* are conjugated with *haben* (p. 240), but according to his *exercises* with *sein* (p. 261). Those verbs which in certain connections are conjugated with *sein* and in others with *haben*, are *always* conjugated with *sein* in the exercises, even if they clearly require the auxiliary *haben*.³

Scarcely less astonishing is the ignorance which Mr. W. displays in the use of the CASES. In the sentence: „Die Blumen zeigen u n s eine Schönheit“ (p. 139) he interprets *uns* as the *accusative* plural of the personal pronoun *ich*. He himself introduces the sentences: „Wenn man einen Freund verliert, so schmerzt es E i n e m“ (p. 222); Er trat mir auf den Fuß (p. 238); Der Hund hat mir in den Fuß gebissen (p. 394); and indeed he seems to have learned this sweet use of the dative from a blundering rule in Otto's grammar (p. 319), which any German school-boy might have corrected, and which he thus copies:

*When an emphatic reference to the subject is to be expressed, the DATIVE case of the personal pronoun is used, as: Hast Du Dir in die Hand geschnitten, have you cut your hand?*⁴ p. 394.

How crude his ideas on the construction of German verbs and adjectives must be, he shows by construing *hören* with a *genitive*,⁵ *sich gewöhnen* with *zu* and the infinitive,⁶ *predigen* with *zu*,⁷ and the adjective *gewöhnt* with a *genitive* (p. 373). In the same blundering way he misapplies the PREPOSITIONS, saying: Er hat Respect f ü r sich selbst (p. 241), instead of *vor*; *mit* or *per* Eisenbahn gehen (p. 244) instead of *auf der* Eisenbahn or *mit dem* Dampfwagen fahren; ich verbarg mich hinter d e r Kirche,

¹ As a neuter verb: Die Sache hat verderben.

² As a neuter verb: Das Metall hat geschmolzen.

³ Thus: Er ist zu schnell gerannt, instead of er hat (p. 243).—Sind Sie nicht zu schnell geritten, instead of haben Sie (p. 255).—Ich bin in Frankreich gereist, instead of ich habe (p. 299).—Sind Sie lange in Frankreich gereist? instead of haben Sie (p. 300).—Warum sind Sie so gelaufen? instead of haben Sie (p. 300).—Leute, welche einige Monate in einem Lande gereist sind, instead of haben (p. 316), etc.

⁴ Otto has here the example: Ich habe mir in den Finger geschnitten, I have cut my finger. This splendid rule seems to have been forgotten by Mr. W., when (p. 241) he says: E i n e (sic) Wundtlo stach mich in das Gesicht. In this sentence the dictionary is enriched with the new word *Wundtlo*, and at the same time with the grammatical gender of this elegant word, of which lexicographers ought to make a memorandum.

⁵ He says, p. 196: Such a deed (put in the genitive) I never heard of.

⁶ Warum gewöhnen Sie sich nicht, deutsch zu sprechen (instead of daran, deutsch zu sprechen), p. 309.

⁷ Er predigte zu denjenigen, die er fand, instead of vor denjenigen, p. 397.

instead of *hinter die Kirche* (p. 245). *Die Lichter brannten bis am hellen Morgen*, instead of *bis zum* (p. 245); *er sitzt nächst zu meinem Onkel*, instead of *nächst meinem Onkel* (p. 348).¹

Still more ridiculous, if possible, are his blunders in the application of ADVERBS, especially the adverb of negation. He censures the sentence: „*Er kann keine Frau ernähren*,“ stating that this would mean: “he cannot support *one* wife;” while he translates the sentence “he cannot support a wife,” by: „*Er kann eine Frau nicht ernähren*“ (p. 155).² On page 275 he varies this model German thus: „*Sie haben nicht einen sehr guten Platz*“ (instead of *keinen sehr guten*), showing thereby, that he neither knows the force of the adjective *kein*, nor that of the negation *nicht*, nor the place where the negation must stand.³ A similar confusion reigns, in the author's ideas, on the force of the CONJUNCTIONS. Here belongs the model sentence: „*Es scheint mir, als ob mein Onkel es mir in seinem letzten Briefe schrieb*,“ (p. 255),⁴ in which not only the phrase „*es scheint mir*,“ but also the conjunction „*als ob*“ (instead of *daß*), and the tense and mood of the predicate (*schrrieb*) are misapplied. In the sentence, p. 336, „*ungeachtet daß er erst seit vier Wochen darin ist*,“ the preposition *ungeachtet* is blunderingly used in connection with *daß*, instead of the conjunction „*obwohl*.“ And indeed, Mr. W. does not seem at all to know what a *conjunction* is. For if he knew, he would not have called the adverb *wann* in the sentence: „*Wann werde ich Dich finden?*“ an *interrogative conjunction* (p. 335).

Regarding the use of the MOODS the author persistently blunders between subjunctive and indicative (as pp. 169, 192, 216, 314, 340 and in many other places). Instead of tiring the reader with quoting all these sentences, we shall prove from his remark upon a sentence of Lessing's, that Mr. W. is neither able to use, nor even to *recognize* a subjunctive. In one of Lessing's fables, the man says to the bee: „*Wenn Du mir auch deinen Honig schenkest, muß ich mich immer noch vor Deinem Stachel fürchten*.“ With reference to the word *schenkest* Mr. W. makes the following remark (p. 216): “The subjunctive is here used after the conjunction „*wenn*.“” But “the conjunction” is here not *wenn* (if), but *wenn auch* (although), and neither the one nor the other governs as such the

¹ Thus he misapplies the preposition *halber*: *Freundschaft halber hat er mir den Gefallen gethan*, instead of *aus Freundschaft*, p. 346; and the preposition *bei*: *Bei den Römern wurde Gallien in zwei Theile getheilt*, instead of: *Von den Römern*, p. 348.

² This single sentence would prove to our full satisfaction that Mr. W. is no German, if it was not for the fact of his frequent Berlin vulgarisms, which clearly betray both the place and sphere of his nativity.

³ Thus he misplaces the adverb *nur* in the sentence: „*wenn ich sie Ihnen nur binnen drei Stunden zurückgäbe*,“ p. 340 (instead of *binnen nur drei Stunden*). On p. 447 he misapplies the adverb *zweifellos* in the sentence: „*Das Haus wäre zweifellos niedergebrannt*,“ (instead of *ohne Zweifel*).

⁴ This sentence is given as an answer to the question: Who has written you that my niece is married?

subjunctive. The worst, however, is, that the word *scheinst* is no subjunctive at all, but an *indicative*.

The same blunder is committed, p. 192. when, in regard to the sentence, *Das kommt daher, daß ich meine Augen wohl in Acht nehme*, the author says: "the conjunction *daß* requires the verb to be here in the subjunctive," where the verb "*nehme*" neither is nor could be a subjunctive, since *daher daß* cannot be construed with this mood. The same confusion appears in his confounding the subjunctive and conditional moods,¹ so that where he ought to use a conditional he uses a subjunctive, and where a subjunctive is required we are pretty sure to find a conditional. Thus he says, page 95: *Meine Kinder würden Spielzeuge (!) haben, wenn sie spielen würden* (instead of *spielten*).

Not less striking is his persistent misapplication of the German TENSES. Bad as his rules are for the use of the tenses, he himself takes care to blunder against them,² just when in a rare case they are, strange to say, at least partially correct. That the author has no idea of what he himself calls "subordinate sentences," nor, in fact, of any kind of sentence, appears partly from his remark (p. 396), that a sentence introduced by a relative pronoun *generally* is subordinate,³ partly from several of his choice interpretations. Thus on page 327 he introduces the sentence: *„Daß er wie unser eigenes Kind behandelt worden ist,“* and accompanies it with the following remark: *„Wie is here a subordinate conjunction, and requires the verb to be at the end of the sentence.“* While the author did not see that the position of the auxiliary could not possibly be affected by *wie*, and that *wie*, here, is clearly no conjunction but an adverb, he takes care to surpass even himself on p. 208 by what he says in regard to the following sentence: *„Ueberdies ist Amerika das einzige Land, in dem alle Bürger gleiche Rechte haben.“* *The verb*, says Mr. W., *is required to be at the end of the sentence by the adverb überdies*. But the adverb *überdies* not only does not *require*, but does not even *permit* the verb to be at the end of the sentence,⁴ and the position of *haben* is so clearly dependent on the relative pronoun *„dem,“* that Mr. W.'s utter inability even to understand the plainest sentences, could not be more strikingly illustrated than by the short remark which we have quoted. If the study of "more than two scores of grammars," which Mr. W. used in the "preparation" of his book,—as he assures us in his preface,—

¹ We shall see by and by, that the author confounds these moods, even in his paradigms.

² Thus he says: *Ich bin ganz wohl, seitdem ich aus Land g l a n g*, instead of *gegangen bin* (p. 336).—*Im Falle ich Ihnen werde dienen können, schreiben Sie mir sofort*, instead of: *im Falle ich Ihnen dienen k a n n* (p. 340).—*Es scheint mir, als ob ich Dich irgendwo gesehen h ä t t e*, instead of *habe* (p. 340).—*Du fährst heute nicht spazieren; bist Du krank?* instead of *Du bist nicht gefahren* (p. 231).

³ Who has ever heard of a relative sentence, being *not* subordinate?

⁴ As he himself says in many places.

could not even teach him elementary analysis, nothing short of an elementary course under an able teacher will do it for him.

That the author's acquaintance with the MEANING of German words must be of a very modest character, might well be expected from the nature of his grammatical knowledge. But the following choice bits of lexicology, the reader has perhaps not expected, even of Mr. Worman. On p. 275 we read: *Es muß schon 8 Uhr sein, hat die Glocke noch nicht gerungen? Sie wird um ein halb zehn Uhr gerungen werden.*¹—Page 177 he says of somebody: *Sogleich nimmt er das Pferd beim Zaune*² (by the hedge), instead of *Zaume* (bridle).—Page 246: *„Was geschah* (what happened), *daß Sie nicht früher aufstanden?*“ (instead of: *Was war die Ursache, daß Sie nicht früher aufgestanden sind*). On page 260 he introduces a verb *klieben* (to cleave),³ imp. *ich klob*, and page 291 the verb *hintergehen* in the meaning to go behind.⁴ Page 294 we read: *Der König unternahm* (instead of *übernahm*) *diesen Auftrag*. Page 308: *Für unser Klima würde sich diese Sache nicht schicken* (instead of *würde nicht passen*). Page 293: *Hast du je die Mauern der Stadt Berlin umgangen?* instead of: *Bist du je um die Mauern gegangen*. In the same meaning (to go around) the inseparable verb *umgehen* is used page 292, although on the preceding page he expressly says that this verb means "*to evade*."

We might almost indefinitely multiply these specimens, if we did not fear to weary the reader. But we cannot abstain from treating the reader with the first two lines of one of the author's reading lessons (page 366), which, as he assures us in the preface, are extracts from German standard writers. He begins a letter thus: *Mein lieber Nefte: Du hast Unrecht, mir nicht die Beschreibung Deiner Reise nach Havre zu schicken, unter dem Vorwande der Bescheidenheit. Wenn man Dir glaubt, fürchtest Du, daß sie mich langweile.*⁵ The reader, who will readily guess what "standard writer" composed this specimen, will surely not be curious to be made acquainted with the rest of this promising letter, occupying a full page of small print.

Mr. W. teaches German pronunciation in 15 pages, believing "that by his essay the great difficulty of the subject may be removed." We can only say, that Mr. W. has perfectly succeeded in making the very plain rules of German pronunciation an abominable muddle. More than half his rules on pronunciation are simply untrue, and the rest are stated

¹ The writer's little son told him once: *Die Glocke hat eben acht geströhen* (struck), which is better than Mr. W.'s *gerungen*, since it was not accompanied by a blunder in the numeral. It is interesting to see how Mr. W. uses his verb *„ringen,“* both as active and as neuter. Lexicographers please copy!

² A Berlin vulgarism.

³ Which is a mere provincialism.

⁴ Which is no word at all.

⁵ Almost every word, at least every phrase, contains some heresy in regard to the laws of language.

in such a jargon, that they are almost always unintelligible. Mr. W. clearly shows, that he neither knows how to pronounce the German, nor would be able to state it, if he knew. The single fact, that he continually confounds sound and letter, often makes it impossible for the English student to understand his meaning at all. He pronounces *Ilie* like *leelyuh*, *Arie* like *ahryuh*. Of the letter *i* he knows only the short sound (like *i* in *pin*), except alone in *Igel*, and the ending *iren*. Hence the author pronounces the words *wider*, *mir*, *dir*, *wir*, as if they were spelt *widder*, *mirr*, *dirr*, *wirr*, and in a similar way the other words with undoubted long *i*, as *Mine*, *Bibel*, *Tiger*, *Ramie*, *Fibel*, *Saline*, *Raninchen*, *Tiber*, *Familie*, and innumerable other words. Long *o* is pronounced like *o* in *note*; but when *h* is added, very much like *o* before *a* in *bemoan*. Of course, this must be extremely plain for the American student. The sound of short *u* in German, according to Mr. W., occurs only before *ll*, and thus he must necessarily pronounce words like *Lust*, *Fluß*, *Gurt*, *dumm*, as if they were spelt, *Luhst*, *Fluhß*, *Guhrt*, *duhm*. Words taken from the Greek with *η*, like *System* and *Syntax*, are pronounced *Süstern*, *Süntar*.² The word *Mal* is pronounced with a longer duration of sound than *Mal* (page 16); the *ä* in *Rälte* like *a* in *late* (about, as if spelled *Rehlte*); *Höhle* with a sound like *ea* in *heard*, and hence the author cannot make any difference between the pronunciation of *Höhle* and *Hölle*. He makes *ai* and *ei* differ like English *ai* in *aisle* from *i* in *mine* (of course very clear for the American student);³ and *äu* and *eu*, so that the former should "perhaps" be uttered with the lips more contracted than *eu*. The letter *c* before *ö* is pronounced like *k*, and hence *Cölibat* must be pronounced *Rölibat*. He spells the city of *Köln* with a *C*,⁴ pronounces final *d* like *dt*, without, however, stating how this combination is pronounced; and *Tag*, *Flug*, *Zwerg*, *Balg* like *Tak*, *Fluk*, *Zwerk*, *Balk*; *Gouverneur* like *Zhuverneur*; *v* in *Frevel* and *brav*, as if spelled *Fremel* and *braw*, but *Venus* and *Verb* like *Fenus* and *Ferb*. The letter *w*, according to the author, is never mute in German.⁵ Mr. W. pronounces *wachsen* with an *aspirate* sound, and the letter *ß* "almost" like *ss*; states that *ff* in the middle of words is *always* used instead of *ß*, and hence necessarily must spell *gieffen*, *flieffen*,

¹ We did not trust our own eyes when we read this. But there it clearly stands on page 15: and being several times repeated, could not be an error of print.

² In order to elucidate this sweet pronunciation the author refers to the different spelling of the Latin *clypens* and *clupens* on Latin coins, and of *Syria* and *Suria* in Tac. Ann. II., 77, 78, 79, 81, 82, 83, and to what Dr. Sears, and to what old Quintilian thinks about it. Very learned, indeed!

³ The fact is, that there is no difference whatever between the two sounds.

⁴ Citizens of Cologne please make a memorandum of it.

⁵ And hence his *Baron von Lütow* (p. 215) must be pronounced *Lützow*, and cities in *ow*, as *Rathenow*, *Güstrow* with sounding *w*. Make a memorandum, citizens of *Rathenow* and *Güstrow*, about the errors of your former ways.

fassen, wüßte, etc. He states that the word *Violine* is pronounced either *Vi'olin*, or *Violin'*,¹ pronounces the words *Hexameter* and *Pentameter* with the accent on the penult,² but forbids the pronunciation of *e* in the dative *dem Schaffotte* (page 351). Mr. W. pronounces the word *Poet* as a monosyllabic (p. 46, obs. III.), and says that *Musik* and *Physik* may be pronounced with the accent either on the first or the last syllable. From his rule (page 15) we infer that he pronounces the words *Familie* and *Emilie* like *Famili'*, *Emili'*, while according to his rules page 28 we would have to pronounce them *Famili'e*, *Emili'e*. He states that a simple vowel, followed by a single consonant is long, and hence pronounces the words *mit*, *in*, *ob*, *ab*, *hin*, *das*, *was*, *weg*, *man*, *Glas*, *grob*, *Monat*, *Eidam*, *Roth*, and innumerable others with long sounds. He further states that unaccented vowels are *always* short, and hence he must pronounce the final syllables, *thum*, *sal*, *fam*, *bar*, and the ultimates in such words as *Phöbe*, *Antigone*, *Hefate*, *desto*, etc., with short sounds. Like Jacob Grimm, whom he calls the "greatest of all grammarians," Mr. Worman is decidedly opposed to the "over-use" of capital initials in German; but he must unwillingly acquiesce in them "in a practical grammar," since their total expulsion has not yet received the sanction of the "educated classes."³ Nevertheless he spells all German words, which have to be specially emphasized, whether nouns or not, with a capital letter (p. 32, No. 6), which perhaps may be sanctioned by what the author calls the "uneducated," but certainly not by the "educated classes."

After we have shown the qualification of the author for the task which he has undertaken, it will be evident that he could not have followed any plan of his own. He himself says in his preface, that he followed the plan of Gáspey's *English Conversation-Grammar*, without stating in what that plan consists. But after even a superficial examination, it became evident to us, that the author's book is nothing but a virtual copy of the rules contained in Otto's *German Grammar*, with just as many alterations as might be sufficient to evade the laws on copy-right. Now, of all the German grammars published in this country, Otto's⁴ was unquestionably the worst to follow, and the most dangerous for Mr. W., because no other contains so many blunders; no other is more intolerably prolix and confused and incomplete. He succeeds in making

¹ Meaning undoubtedly *Fi'olin* or *Fiolin'*. But the fact is, that it is *neither* pronounced *Vi'olln* *nor* *Violin'*.

² According to his rule that foreign words with German endings have the accent on the syllable *next to the last* (p. 28). According to this he certainly would pronounce *Antigo'ne*, *Hela'te*, *Salome*, *Juli'e*.

³ From this we naturally infer, that the "uneducated classes" have already sanctioned it. We wonder which classes the author calls "educated" in Germany, since we believe that *all* classes in Germany are educated now-a-days, at least so much, as to avoid blunders such as „*Ich habe mir in den Finger geschnitten*," or „*Er kann eine Frau nicht ernähren*," and the like.

⁴ We seriously believe that "*Dr. Otto*" is a myth.

out of the plain German declension an unintelligible labyrinth for the beginner, and employs almost half his book simply to teach the student to conjugate, in which, however, he signally fails. The absurdity of his system appears from the simple fact, that the student has to learn the complete paradigms of nine irregular verbs¹ before he comes to the regular conjugation, and learns the plain rules on the formation of tenses and moods. Mr. W., now, did not mend a single one of Otto's blunders; he did not even attempt to change or curtail his prolixity, or to fill up his omissions. On the contrary, he made the bad worse; he multiplied Otto's blunders, made his looseness looser, his prolixity more prolix, his omissions more numerous. Wherever Otto may be misinterpreted, he is sure to be misunderstood by Worman, who contrives to make downright nonsense out of mere ambiguities. We may say that Mr. W. succeeds in confusing confusion itself, not only by ignorance but by utter negligence and recklessness. Thus, in the chapter on separable compounds, he leaves out a whole list of compound particles (about 45, if we counted right), but retains the heading "compound particles," which now stands over a list of six verbs, compounded with adjectives, so that the startled student will find the verbs *fehlschlagen*, *freisprechen*, etc., designated as "compound particles." As these verbs belong to one of the next sections of Otto (p. 223), Mr. W. would seem to have lost the intermediate page.

After the perusal of this book, we felt a kind of respect for plagiarism; for it clearly shows that not every one is able to be a decent plagiarizer. But what must we think of a man, who shows himself so extremely sensitive as to the possible reproach of making use of other people's literary property, that at three different places (p. 458, 459, 461) he acknowledges his indebtedness to Woodbury² for three utterly indifferent examples taken from the Bible and from Uhland, while he forgets to acknowledge his indebtedness to Otto for almost the rest of his book? And what must we think of a man who in his preface says, that his book is after the plan of Gaspey's English grammar, while he conceals that from Otto's grammar he took not only the plan, but also the substance?

In only one thing is Mr. Worman "original," and that is the exercises. But what an originality! It makes us almost forget all his other sins. We shall not speak here of his utter want of taste and

¹ Which Mr. W. increases to ten.

² Even here the ignorance of Mr. W. played him bad tricks. For one of the examples is badly translated already by Woodbury, and in the other Mr. W. spoiled Luther's translation, by substituting for *Träume* (dreams) the word *Trümmer*, and for Luther's correct dative (*über dem Baal*) a faulty accusative (*über den Baal*), and that at the very place where he wants to teach the use of the preposition *über*.

decency,¹ or his occasional display of startling ignorance in the rudiments of education.² All this dwindles into insignificance when we see that the whole of his exercises form a random mass of phrases and sentences, distributed over the chaos of his rules, without the slightest regard to principle, or to the wants of the student. While on the one hand most of the rules are left without even a phrase by which a student might show that he has understood them, or how, there is in almost every exercise a number of sentences, which stand either in no connection whatever with the given rules, or in direct contradiction to them.³ While in the very last parts of the book the student is treated to sentences like this: "Socrates was a wise man" (p. 372), there are almost everywhere sentences which the student at the given place either cannot translate at all, or only with the most ridiculous blunders, so that the exercises seem to be made, not to drill the student in the *given* rules, but to accustom him to offend rules that are *not* given.⁴

¹ When for instance he says that he heard this or that person called an ass, or when he speaks of cheats, drunken fellows, alehouses, taverns, and asks for good Bavarian beer, and the like; or when he says (p. 264): This man does not drink like a man, but like a beast.

² When for instance he asks: Have you ever been in Pesth, at the mouth of the Danube?

³ Thus we find in the reading lesson (p. 284) the sentence: „Da wiederholte das Wort,“ while in his rules, to which this exercise belongs, the preposition *wieder* expressly stands as a *separable* particle.

⁴ We will give the reader some specimens of translation, to which even the most attentive student would be compelled to resort, from deficiencies in the rules, or for want of special suggestions, or because the rules are not yet explained. It would be easy for us to add almost indefinitely to these specimens: We have not yet answered them (p. 184), wir haben nicht noch sie geantwortet.—I shall not obey you, ich werde Sie nicht gehorchen.—Procure me an opportunity to speak French, Beschaffe mich eine Gelegenheit Französisch (es?) zu sprechen (p. 184).—Do you remember me, Erinnern Sie sich mich (p. 184).—As I could not use it, I have sold it, als ich konnte es nicht gebrauchen, ich habe es verkauft (p. 184). (The reader will notice, that all this stands on one page.)—The pen which you have made me, die Feder welche Sie mich geschnitten haben (p. 205).—Whom his judges condemned to death, den seine Richter dem Tode verurtheilten (p. 205).—Have you read, haben Sie gelesen? (p. 206).—Whom I love best, den ich am besten liebe (p. 206).—He could not walk for several weeks, er konnte nicht für mehrere Wochen spazieren gehen.—To send for a physician, für einen Arzt senden (p. 244).—He will live very long, er wird sehr lang leben (p. 244).—He has brought you a new pair of shoes, er hat sie ein neues Paar Schuhe gebracht (p. 244).—He stepped to the window, er trat dem Fenster (p. 245).—Do not contradict me any more, widersprechen Sie mich nicht irgend mehr (p. 254).—The enemy were very numerous, der Feind waren sehr zahlreich (ib.).—When you spoke to her, wenn Sie sprachen ihr (ib.).—The eagles seem to be the watchmen of unfortunate Tyre, and to fulfil the prophecies, die Adler scheinen sein die Wächter von unglücklichem (er?) Tyrus, und erfüllen die Prophezelungen (ib.).—Which frightened us very much, welche uns sehr viel erschraf (p. 259).—If you do not bring some more wood, wenn Sie nicht einiges mehr Holz bringen (p. 264).—He is never believed, er wird nimmer geglaubt (ib.).—Napoleon repented having gone to Moscow, Napoleon beronte nach Moskow gegangen seind (p. 266).—The latter are useful to man, die letzteren sind nützlich Menschen (ib.).—Did you recollect (yourself) (of) him (p. 273), besannen Sie sich von ihm (according to rule p. 87).—Before they went on land, ehe sie gingen auf Land (ib.).—And all of his money besides, und alle (or all) seines Geldes obendrein (ib.).—The choir sang a few pieces, but they had never before sung so badly, daß (vocab.) Chor sang ein wenige Stücke, aber sie hatten niemals voraus so schlecht gesungen (p. 274).—They bound the white men to posts and shot at them, sie banden die weißen Menschen Pfählen und schossen an sie (or bei ihnen), ib.—Do you know, who has hired these men to sweep the streets, Kennen Sie, wer hat diese Menschen die Straßen fegen gebungen (ib.).—Pardon me, the expression escaped me, verzeihen Sie mich, der Ausdruck entschlüpfte mich (p. 289).—I cannot cross this river, Ich kann diesen Fluß nicht übersehen (p. 292).—Never can I consent to this willingly, niemals kann ich diesem freudig einwilligen (p. 324).—I would rather not have you go, if you go unwillingly, ich würde ehe Sie nicht gehen haben, wenn Sie gehen ungern (ib.).

Bad as this is, the liability of the student to commit blunders is at every step increased by the author's "vocabulary," which, the author assures us in the preface, is *complete*, containing *every* word used in the body of the book. In order to test this completeness we examined pages 429, 430, 443, 447, and 450, and found on these five pages thirty-eight words which do not stand in the vocabulary. By occasionally testing the vocabulary we found that it is almost completely useless for the purpose it pretends to be written. Almost everywhere erroneous significations may be found.¹ Many words occur in the vocabulary, but not in the "body" of the book,² at least not in the given signification.³ Often more than one signification is suggested, but the student is never directed which one to use in the given case. Every page of the exercises furnishes evidence of the most ridiculous blunders which the student *must* commit when he translates under the guidance of the author's vocabulary.⁴

¹ For instance: yonder, *doch*; cause, *Unruhe*; century, *hundert*; decorate, *Abnahme*; clime, *Klima*; crucifix, *Kreuz*; dictate, *vorsagen*; deer, *Reh*; claim, *Recht*. The word *after* is thus translated by the author: prep. *nach*; adv. *nachher*, *hinter*; after that, *nachdem*. We learn from this: (a) that the author does not know the *conjunction* "after" at all; (b) that he takes the German *preposition* *hinter* for an *adverb*; (c) that he translates the German *conjunction* *nachdem* by "*after that*," a translation which is never admissible.

² As *check*, *Schach*; *cheer*, *Freude*; *cipher*, *Zahl*; *cleave*, *anflehen*, and many others.

³ Thus *einschlagen*, *to strike in*, but the student has to translate: *den Weg einschlagen*; *recht*, *true*, *real*, but the student must translate: „*die rechte Hand*;" *paper*, *Papier*, but the word is required in the meaning *Schrift* (p. 429).

⁴ The following are some of the most striking instances: I want you to set the table (p. 450), *Ich brauche Sie, den Tisch zu setzen*.—I know he is a fine scholar and gentleman, *ich weiß, er ist ein schöner Schüler und Herr* (p. 450).—The more pains you take to learn German, je mehr Schmerzen Sie nehmen, zu lernen Deutsch (*ib.*).—Er hat mir hoch und heilig versichert, he has assured me highly and holily (*ib.*).—This is to be sure the best joke, *bleß ist zu sein sicher der beste* (*Scherz* not in the vocab.), p. 447.—William of Orange was known to be taciturn, *Wilhelm von der Apfelsine war bekannt* (*schweigsam* not in the vocab.) zu sein (p. 443).—He committed suicide, *er übergab* (*Selbstmord* not in the vocab.), *ib.*—Water is one of the greatest moving powers, *das Wasser ist ein* (87) *von den größten bewegenden Mächten* (*Gewalten*), p. 437.—In Mrs. B.'s dinner-party, in *Mrs. B.'s Mittagessen-Partei* (p. 437).—This work is difficult enough, *diese Arbeit ist schwerlich genug* (p. 430).—Henry, come up stairs at once, *Heinrich, komme auf Treppen auf einmal* (p. 424).—I should have called on you, *ich würde auf Ihnen gerufen haben* (*ib.*).—Selt sie ihren Mann verloren, ist ihr *Freude* dahin, since they lost their man, their (*Freude* not in the vocab.) is thither (p. 417).—You are not allowed to pick these flowers, *Sie dürfen diese Blumen nicht stehlen* (p. 406).—Your loss is greater than that which I have sustained, *als ich unterstützt habe* (p. 400).—Men, who sustain a good character, *die einen guten Buchstaben unterstützen* (*ib.*).—Just think, our mutual friend has lost one of his eyes, *denke gerecht, unser gegenseitiger Freund hat ein von seinen Augen verloren* (p. 395).—Do not turn away your face, *Drehen Sie nicht davon Ihr Gesicht* (*ib.*).—We rode a distance of six miles, *wir ritten eine Meile von sechs Meilen* (p. 372).—Not a day passes, *nicht ein Tag fügt sich zu* (p. 341).—Whether Mr. Bancroft has succeeded at the Court of Baden, *ob Herr Bancroft ist auf* (*bei*) *dem Hofe Badens geblieben* (p. 331).—I have never attended a performance, *ich habe niemals eine Vorstellung besorgt* (p. 324).—Please be on hand, *Gefälle, sei an Hand* (*ib.*).—In the late war against the Austrians, in dem *späten Kriege gegen die Oesterreicher* (p. 259).—I intended to communicate this intelligence to you last evening, *Ihnen mitzutheilen diesen Bericht letzten Abend* (p. 282).—He climbed on the roof, lost his balance, and fell to the ground, *er kletterte auf dem Dache, verlor seine Wage und fiel dem Boden* (p. 262).—Ride at once after the doctor, *reite bei einmal nach dem Doctor* (p. 250).—Most of the Franks remained on this side of the Loire, *Meiste der Offenherzigen blieben auf dieser Seite der Loire* (p. 254).—Do you not hang the picture too high, *hängen Sie nicht das Bild auch hoch* (p. 233).

The student, therefore, who is under the necessity of using the author's grammar is in a peculiar situation. First, he is systematically taught bad grammar by the author's *German* exercises ; and then he is accustomed to bad grammar, and to improper words and phrases, by the *English* exercises, which he must generally translate in an execrable way. But supposing the unfortunate student has avoided, here Scylla and there Charybdis, he has still a third, more formidable rock to meet, on which he surely will suffer shipwreck. This ghastly rock is nothing else than the author's, or rather Otto's, rules in their "improved" form.

With these we shall entertain the reader in another number of the MONTHLY.

THE DECORATION OF SCHOOL-ROOMS.¹

HITHERTO, as far as I know, it has either been so difficult to give all the education we wanted to our lads, that we have been obliged to do it, if at all, with cheap furniture in bare walls ; or else we have considered that cheap furniture and bare walls are a proper part of the means of education ; and supposed that boys learned best when they sat on hard forms, and had nothing but blank plaster about and above them whereupon to employ their spare attention ; also, that it was as well they should be accustomed to rough and ugly conditions of things, partly by way of preparing them for the hardships of life, and partly that there might be the least possible damage done to floors and forms, in the event of their becoming, during the master's absence, the fields or instruments of battle. All this is so far well and necessary, as it relates to the training of country lads, and the first training of boys in general. But there certainly comes a period in the life of a well-educated youth, in which one of the principal elements of his education is, or ought to be, to give him refinement of habits ; and not only to teach him the strong exercises of which his frame is capable, but also to increase his bodily sensibility and refinement, and show him such small matters as the way of handling things properly, and treating them considerately. Not only so, but I believe the notion of fixing the attention by keeping the room empty, is a wholly mistaken one : I think it is just in the emptiest room that the mind wanders most ; for it gets restless like a bird for want of a perch, and casts about for any possible means for getting out and away. And even if it be fixed, by an effort, on the business in hand, that business becomes itself repulsive, more than it need be, by the vileness of its associations ; and many a

¹ From RUSKIN'S "Political Economy of Art."

study appears dull or painful to a boy, when it is pursued on a blotted deal desk, under a wall with nothing on it but scratches and pegs, which would have been pursued pleasantly enough in a curtained corner of his father's library, or at the latticed window of his cottage. Nay, my own belief is, that the best study of all is the most beautiful ; and that a quiet glade of a forest, or the nook of a lake-shore, are worth all the school-rooms in Christendom, when once you are past the multiplication-table ; but be that as it may, there is no question at all but that a time ought to come in the life of a well-trained youth, when he can sit at a writing-table without wanting to throw the inkstand at his neighbor ; and when also, he will feel more capable of certain efforts of mind with beautiful and refined forms about him than with ugly ones. When that time comes, he ought to be advanced into the decorated schools ; and this advance ought to be one of the important and honorable epochs of his life.

I have not time, however, to insist on the mere serviceableness to our youth of refined architectural decorations, as such ; for I want you to consider the probable influence of the particular kind of decoration which I wish you to get for them—namely, historical painting. You know we have hitherto been in the habit of conveying all our historical knowledge, such as it is, by the ear only, never by the eye ; all our notions of things being ostensibly derived from verbal description, not from sight. Now, I have no doubt that as we grow gradually wiser—and we are doing so every day—we shall discover at last that the eye is a nobler organ than the ear ; and that through the eye we must, in reality, obtain, or put into form, nearly all the useful information we have about this world. Even as the matter stands, you will find that the knowledge which a boy is supposed to receive from verbal description is only available to him so far as in any underhand way he gets a sight of the thing you are talking about. I remember well that, for many years of my life, the only notion I had of the look of a Greek knight, was complicated between recollection of a small engraving in my pocket Pope's Homer and a reverent study of the Horse-Guards. And though I believe that most boys collect their ideas from more varied sources, and arrange them more carefully than I did, still, whatever sources they seek must always be ocular : if they are clever boys, they will go and look at the Greek vases and sculptures in the British Museum, and at the weapons in our armories—they will see what real armor is like in lustre, and what Greek armor was like in form, and so put a fairly true image together, but still not, in ordinary cases, a very living or interesting one. Now, the use of your decorative painting would be, in myriads of ways, to animate their history for them, and to put the living aspect of past things before their eyes as faithfully as intelligent invention can ; so that the master shall have nothing to do but once to point to the school-room walls, and forever afterward the meaning of

any word would be fixed in the boy's mind in the best possible way. Is it a question of classical dress—what a tunic was like, or a chlamys, or a peplus? At this day, you have to point to some vile wood-cut, in the middle of a dictionary page, representing the thing hung upon a stick; but then, you would point to a hundred figures, wearing the actual dress, in its fiery colors, in all actions of various stateliness or strength; you would understand at once how it fell around the people's limbs as they stood, how it drifted from their shoulders as they went, how it veiled their faces as they wept, how it covered their heads in the day of battle. *Now*, if you want to see what a weapon is like, you refer, in like manner, to a numbered page, in which there are spearheads in rows, and sword-hilts in symmetrical groups; and gradually the boy gets a dim mathematical notion how one cimeter is hooked to the right and another to the left, and one javelin has a knob to it, and another none: while one glance at your good picture would show him,—and the first rainy afternoon in the school-room would forever fix in his mind,—the look of the sword and spear as they fell or flew; and how they pierced, or bent, or shattered—how men wielded them, and how men died by them. But far more than all this, is it a question not of clothes or weapons, but of men? how can we sufficiently estimate the effect on the mind of a noble youth, at the time when the world opens to him, of having faithful and touching representations put before him of the acts and presences of great men—how many a resolution, which would alter and exalt the whole course of his after-life, might be formed, when in some dreamy twilight, he met, through his own tears, the fixed eyes of those shadows of the great dead, unescapable and calm, piercing to his soul; or fancied that their lips moved in dread reproof or soundless exhortation. And if for but one out of many this were true—if yet, in a few, you could be sure that such influences had indeed changed their thoughts and destinies, and turned the eager and reckless youth, who would have cast away his energies on the race-horse or the gaming-table, to that noble life-race, that holy life-hazard which should win all glory to himself and all good to his country—would not that, to some purpose, be “political economy of art?”

GIVE us a house furnished with books rather than a gorgeous array of furniture, beyond the wants of the inmates. Both, if you can, but books at any rate. Think of the mental torture you must undergo to spend several days in a friend's house and hunger for something to read, while you are treading on costly carpets and sitting down on luxurious chairs, and sleeping upon down; as if one were bribing your body for the sake of cheating your mind. Books are the windows through which the soul looks out. A house without books is like a room without windows.

*EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.*SECTION V.—*Oxygen.*

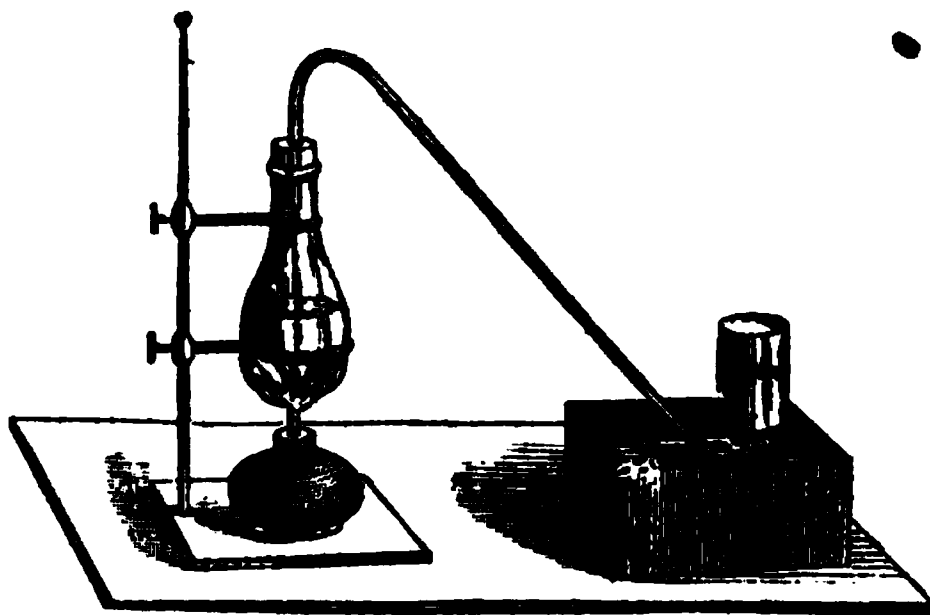
THESE experiments with oxygen are designed to show its power of supporting combustion. Although oxygen exists uncombined in the atmosphere, it is most conveniently prepared for lecture-room experiments by disengaging it from some one of its compounds. Chlorate of potash, red oxide of mercury, and black oxide of manganese are substances most frequently employed in the production of Oxygen. The first of the above list is by far the most convenient for the purpose, the second being too expensive, and the latter requiring too high a heat.

In making oxygen, the crystals of chlorate of potash should first be finely pulverized and then mixed with about half the same bulk of oxide of manganese. In the absence of manganese fine sand may be used.

The gas may be made in a small glass flask, or even in a test-tube, in sufficient quantity to exhibit its leading properties. A tablespoonful of the chlorate will yield something more than a gallon of oxygen.

To collect the gas in jars, a pneumatic trough or some equivalent substitute must be provided. A small tub with a shelf or support for the receiving-jar is all that is required. The shelf should be at such a height above the bottom of the tub that when the water covers it to the depth of about an inch, the receiving-jars may be filled without difficulty. A jar being entirely filled with water and placed mouth downward on the shelf, is ready to receive the gas.

Exp. 32. For making oxygen, prepare a flask by fitting to it a cork through which a glass tube passes: both cork and tube should be fitted so that the gas shall not be lost by leakage. If the glass tube is not quite tight, cement it with sealing-wax. Having charged the flask with the chlorate of potash and manganese mixture, place on the retort-stand, and set it near the pneumatic trough. Make a connection with the receiving-jar by means of a rubber tube or a glass one, as in the above figure.



Apply the flame of the lamp in such a manner as to heat the whole contents of the flask uniformly. A portion of the air will be driven off first by the expansive force of the heat. When the oxygen begins to come

over freely, set the lamp well under the flask, and so that the flame will envelop it, and prepare to replace the receiving-jar as soon as it is filled.

When the oxygen is all expelled from the flask, take the delivery-tube out of the water before removing the lamp; otherwise the water will run over through the tube, and by suddenly cooling the flask, break it. When the residue in the flask is quite cold pour in water, and after a few minutes so much will be dissolved that the whole mass can be poured out.

The art of bending glass tubing when needed for such experiments, is readily acquired by a little careful practice. When done by a spirit-lamp the flame should be pretty large. To make a neat bend, the tube should be heated on all sides, and for the distance of an inch or two on each side of the proposed angle. This is done by holding the tube horizontally, near the top of the flame, and by moving it back and forth lengthwise through the flame, at the same time twirling it in the fingers to expose all sides of the tube. When faintly red, it will yield to a gentle pressure and may be bent to any desired angle.

Tubing is easily broken at any desired place by marking the place with the edge of a file, and then breaking it as though it were a stick; carefully observing, however, to bring the pressure with the thumbs to bear exactly opposite to the file scratch, so that the tube shall give way first in the mark.

Exp. 33. When the receiving-jar is filled with oxygen, set it upright on the table. This may be accomplished without losing the gas, by holding a piece of pasteboard over the mouth of the jar while inverting it. Attach a short bit of candle or taper to a wire, and uncovering the jar of oxygen, let the lighted candle slowly into the gas. Observe that it burns more brightly than in air. Remove it from the jar, blow it out, and if there is a spark left on the wick, return it quickly to the jar, when it will burst into flame with a slight report.

• *Exp. 34.* Hold the flame of the spirit-lamp above the open mouth of a jar of oxygen. Let the lamp be slightly inclined so that anything may drop through the flame into the jar. Pour some iron-filings through the flame, and they will burn with considerable brilliancy as they fall into the oxygen. The sides of the jar become coated with the oxide of iron.

Exp. 35. Prepare a watch-spring for burning by heating it to a red heat, so as to destroy its elasticity, and then winding it spirally around a pencil. The end that is to be lighted should be wound with cotton thread and dipped in melted wax. Attach the other end to a wire of sufficient length to admit of its being lowered to the bottom of the jar. Light the waxed thread, uncover the jar, and lower the spring gradually to the bottom. The scintillations are very brilliant, and the globules that drop in the jar may cause it to break, unless some sand be previously placed in the bottom.

Exp. 36. The effect of this experiment is much heightened in the following manner :

Obtain a stoppered bell-glass capable of holding a gallon ; also a plain tall cylindrical-glass of the same or greater diameter than the bell-glass. A tin plate with half-inch holes near the middle is also needed. Fill the cylindrical-glass quite full of water and place the plate on top. Upon the plate set the bell-jar filled with oxygen. It is better that the plate should so set into the cylindrical-glass that the bell-jar shall set in a slight depth of water. Burn the spring as directed above, and the burning globules will fall through the water below, still glowing.

Exp. 37. Fasten a bit of charcoal to a wire, light and lower it into a jar of oxygen. It will glow brightly. A piece of coal made from bark is the best for this experiment. The result is carbonic acid gas.

For burning sulphur or phosphorus in oxygen, some kind of a spoon-shaped holder is necessary. The deflagrating-spoon, made for this purpose, is a little brass bowl holding about as much as a teaspoon, and furnished with a long wire handle running up from the side.

A good substitute may be prepared from a strip of copper about an inch wide ; the end being bent and slightly hollowed to receive the material. A piece of chalk may be scooped out and fastened to a bit of wire so as to answer the same purpose ; or, better still, a deep cavity may be cut in a piece of cork, and then nearly filled with powdered chalk. The cork is of course easily made fast to a wire handle.

Exp. 38. Place a piece of sulphur in the spoon, ignite it and lower it slowly into a jar of oxygen. It burns with a vivid blue flame. The experiment is performed with the best effect in a darkened room.

Exp. 39. Prepare a piece of phosphorus in accordance with the capacity of the jar of oxygen. A piece of phosphorus as large as a marble is sufficient for a two-gallon jar. If the jar holds but a pint of the gas, a bit of phosphorus as large as an ordinary bean is enough.

Great care must be observed in cutting and handling the phosphorus. Cut it only under water, but dry it carefully by pressing gently in soft paper before burning it in the jar, otherwise steam will be formed and the phosphorus thrown out of the spoon.

Dry the spoon carefully ; put in the phosphorus ; ignite by touching it with a hot wire, and lower it very slowly into the jar of oxygen. It burns with a dazzling light. The young experimenter is liable to let the burning mass touch the side of the jar.

The holding-wire of the deflagrating-spoon should be bent near the top, so that the experimenter's hand shall not come directly over the mouth of the jar.



The breakage of the jar is a very common occurrence in the phosphorus experiment. This the lecturer must be prepared for, and must guard particularly against starting back or taking out the deflagrating-spoon in a hasty manner, and thereby throwing the burning phosphorus about the room. If the jar breaks while the phosphorus is burning vigorously, set the spoon down in the fragment of the jar and let it burn out. Even if it be on a table, and the burning phosphorus fall on it, the table will be only slightly charred.

It is well to have a rude table upon which experiments can be performed freely without danger of defacing it by acids or heat.

When large quantities of oxygen are desired, a common cast-iron teakettle makes a good generator. The cover should be fastened down by wedges under the handle, and clay should be used to aid in making the cover-joint tight. The gas is delivered through the spout, and a pretty large connecting-tube is required. Many experienced lecturers on Chemistry prefer this apparently rude generator to the more costly copper flask.



MAKE HOME HAPPY.

READINGS, declamations, pantomimes, simple games, acting and rehearsals, are all innocent amusements, and can be enjoyed at home with far less expense than to go abroad for them. This course will give you the love and confidence of your children, which you must have to serve them well, and to make them feel that home is the best place in the world. It is the course that will save your sons from the haunts of vile companions, and your daughters from being enticed, through the hope of pleasure, into rude and forbidden ways. For your children will seek pleasing associates ; if they can't have them at home they will abroad. Your young folks will have fun and frolic, and if you make them leave it outside of your dwelling, they will go out to find it and enjoy it. Home, then, is the safest and most profitable place for amusements. Here bring your music, your gambols, and carols ; here let the merry voices ring in social merriment, while you, if you have cares and sorrows to weigh down your heart during the day, lay them apart from yourself for the time, and put on a glad spirit and live over again your gay and happy hours. It's no use to carry a sad face always, and it is not right to cloud the sunshine of the young heart ; it should have its spring-time and harvest. A child without a childhood, a youth without youth, is a sad picture for the world to look upon.—*Liberal Christian.*

MAY, 1869.

EDUCATION AND CLIQUE.

TO bring out the man in the fulness of conscious and active life, and to instruct him how to work for the highest good of the many, ought to be the object and the result of the processes of the schools. With some schools this is the object and the result. These schools graduate men who see the truth and are not afraid to speak it, who sift a matter to the wheat which it contains, and point at the chaff and call it chaff; who look for principles in the products of the world's many minds, and, finding none in some of the products, speak out, indifferent to the producers' good or ill will, and tell the world that they find in such and such products no principles: men who are not silenced by cliques or ordained by them to speak the tenets of the cliques, but, being truly educated, speak and act out of the law of their own consciousness;—yet it is a fact that most schools do not graduate such men; but, rather, men who in their utterance and their acts are directed and controlled by policy. These schools teach men tenets; and when the student utters an independent idea, an opinion that is not in the summary of clique opinion, or that stands opposed to such summary, the preceptor seeks to train him out of the “notion,” and to bring him to the beaten track which the many of his associates walk in easily and as a matter of course. Business is the leading idea, not truth. “Sustain the clique,” is the motto; not, “Speak out and act out your manhood.”

Under the guidance of this motto and under the control of views inherited by one generation from another, the taught man teaches the people and propagates clique tenets; keeps the people very much separated in cliques; keeps them under the bondage of prejudice; restricts the growth of their consciousness; dwarfs them. What narrow natures are to be met with in places low and high! With what bowing down is

wealth greeted ! What conceited indifference, or patronage, or disdain, or grimace does the truth encounter ! What *little* men and women are to be met with at every turn ! They *seem* great in their cliques. They think themselves great in the world. They are the embodiment of prejudice and bigotry, and think themselves the predestinate teachers of the world's true teachers.

In this age of schools something is wrong with the schools. There is in them a death-producing element ; a principle that tends to thwart that end for which they are established. The wrong consists, to repeat, in the absence of effort, beyond certain bounds, to bring out the *man* ; in a persistence of effort to repress anything, even the mind itself, that opposes or does not foster this or that clique—"Ring," we might rather have said ; and might have used the word in its worse sense.

To go on well, policy must be dropped. Outspeaking must be endured and encouraged and taught. Thinkers, not automatons, must occupy the teachers' chairs and be graduated from the schools. And clique must be made to disappear from the face of the earth.



A WANT.

THERE is need of a good practical treatise on School-Architecture.

Millions of dollars are expended annually for the building and repairing of school-houses ; yet the planning of the majority of these structures is committed to local Boards or common house-carpenters, whose knowledge of the requirements of a school-room is of barest and vaguest character. Even in the cities, where more pretentious architects are employed, structures fit for the reception of large bodies of children are the exceptions, not the rule. One could number on his fingers the school-houses which do not display in their plan an unpardonable ignorance or disregard of the conditions of healthful school-life.

In the single item of ventilation sins of omission and commission are numerous enough in our school-buildings, to prove the most urgent need of a more general understanding of the principles that should be regarded in planning even the simplest log school-house in the woods, or adobe structure on the plains.

On the score of economy, the need of such a work is equally great. Thousands of well-meaning builders are wasting the public money on structures that would seem to be planned purposely to defeat the teachers' efforts for pleasant and profitable school-management. Traditional blunders are blindly followed, or ill-advised improvements attempted, simply because no competent person has thought the matter worthy of sufficient consideration to reduce to a system the principles of school-architecture that have been developed during the past half century. The books we have on this subject, never remarkably valuable, are now hopelessly out of date, and useful chiefly as models of what should be avoided in making a new one.

The new book should aim not merely to aid the professional builder, but to teach the public generally, and school-officers in particular, what principles should be observed, and what facts taken into account, in the construction of school-houses of every grade ; and these principles should be variously exemplified by a great variety of plans and estimates, to suit the varying conditions of a continent—the frontier settlement, the growing village, the crowded city. Who will undertake the work ?



PERSONAL AND EXPLANATORY.

A PUBLISHER is rather to be commiserated than blamed when misled to undertake the publication of an unworthy book—provided, of course, that the purpose of the book is ostensibly good. He is generally a business man, not a critic, and cannot be expected to be a judge of the literary merit or demerit of everything he is asked to publish. Professional reviewers, on the contrary, *are* expected to be judges. For them, to praise where censure is deserved is criminal, and doubly criminal when the bad book praised is a school-book ; for if there is any place in which charlatanry should receive least encouragement it is the school-room.

It is no uncommon thing, more's the pity, for an incompetent man to write a book and to have it published ; and for the book, when published, to be roundly praised. But it is an uncommon thing, for so arrant a pretender as Mr. Worman appears to be, to set up as a teacher

of language on so pretentious a scale, and by sheer assertion to command so much attention and praise, and that, in so many cases, from journals laying claim to the highest critical ability. It rarely falls to a reviewer to expose so rank a piece of charlatany.

One would think that the exposure would be sufficiently humiliating to those teachers and college professors who have "adopted" the work, and in company with wise reviewers have rushed to print with their elaborate commendations of this masterpiece of bad book-making, to cause them to be less hasty and more critical another time. If this result is attained, we are sure that the readers of the MONTHLY will not begrudge the space that we have devoted to "Worman's Complete German Grammar."

EDUCATIONAL INTELLIGENCE.

WISCONSIN.—The Superintendent's report for 1868 is quite encouraging. In every particular there appears to have been a slight gain on the record of the preceding year; though in no instance is the increase greater than would naturally result from the general growth and progress of the State. The legal school population (all over four and under twenty years of age), was about 387,000. The number of actual "school age" was of course considerably less, probably not more than 275,000. For these the State provided 4,646 school-houses, with accommodation for 271,000 pupils. The number of school age reported as attended public school some part of the year was 246,000, of all ages 249,000; nearly 15,000 more attended private schools. The attendance at academies, colleges, benevolent institutions, etc., make the entire school-going population over 268,000. The average duration of the schools was 141½ days, and the average attendance of pupils 75 days. Eight thousand five hundred and sixty-six different teachers were employed during the year, five thousand two hundred and sixty-seven being required constantly. How many of these teachers were men and how many women, is not stated. The average monthly wages of male teachers was \$42.92; of female teachers \$27.18. Of the 4,646 school-houses, but 984 are on sites "well enclosed." The sites of 3,615 contain less than one acre each; and 1,255 are without outhouses in good condition. The total valuation of the school-houses and sites is nearly \$3,000,000. The aggregate expenditure for school purposes, during the year, was \$1,791,940,—or \$4.64 for each person reported between 4 and 20 years of age, and \$7.19 for each pupil registered. The amount expended for tuition, for each pupil registered, was \$4.18.

NEVADA.—The fourth annual report of the State Superintendent shows that, in spite of the disadvantages incident to the settlement of a mineral country, public schools mainly free have been established in

every populous district, and during the past two years have been taught for a greater average number of months (with perhaps one or two exceptions), at a greater expense per census-child, by teachers employed at a larger average salary, than elsewhere in the United States. The number of schools and scholars reported, the Superintendent says, would hardly justify any formal presentation of statistics or discussion of plans, but for the relation which the school system sustains to the future of the State, rendering a present examination of its condition of no little moment. These returns are exhibitivè of the character and working of initial measures, which now, better than at any later period, may be improved and adapted for higher usefulness. They are prophetic also, and helpful of prosperity. Wherein they reveal any excellence of method and liberality of provision, any profusion of appliance for the education of children, they invite population and improve the prospect of the State. "Nor are they void of pleasing testimony. Comparison of them with returns of other States establishes that in respect to system, provision, and facilities for popular education in elementary branches, Nevada is superior to many, and inferior to but few States of the Union." To say the least, Nevada promises well; and considered as promises, the following statistics are not devoid of interest. The number of children in the State last year, between 6 and 18 years of age, was 3,293, an increase of 512; under 6 years of age, 2,503, an increase of 440; attending public school, 1,661; private school, 496; not attending school, 642. The State has 26 school-districts, with 39 schools; 25 school-houses are owned by the State, and 8 are rented. Of the twenty-five, 18 are built of wood, 2 of adobe, 2 of brick, and 2 of stone. The character of the twenty-fifth is not reported. Four school-houses were erected during the year: two were pronounced a disgrace to the State; eleven need to be remodelled and enlarged; twelve are *neat, commodious, and substantial*. How many States can say the last of *half* their school-houses? The total valuation of school-houses and furniture was \$39,331, an increase of over fifty per cent. Forty-four teachers were employed, twelve of whom were men. The average monthly wages paid to male teachers was \$157.41; to female teachers \$107.28; that is, more than the average *yearly* salaries paid in some of the Eastern States. The Superintendent speaks favorably of the educational ability of the teachers. Twenty-one schools were maintained nine months and over; fourteen schools six months and over; six schools less than six months; the average time being 7.28 months. In 1867 the period was 7.98 months. The aggregate cost of the schools was \$72,430; of which \$48,324 was paid to teachers.

MEXICO.—The Mexican Congress has decreed the following basis for the improvement of the schools. *First*, to establish ample liberty of teaching; *second*, to facilitate and propagate as much as possible primary and popular instruction; *third*, to popularize and make more generally known the exact and natural sciences; *fourth*, to conserve and improve special schools for secondary instruction; *fifth*, to reform the school of commerce, in order that it may also serve as a special school for administration; *sixth*, to arrange that the necessary expenses shall not exceed the sum assigned for public instruction in the budget of disbursements. Congress has also voted the appropriation of nationalized church property to the amount of \$50,000 to the Lancasterian Society for the improvement

of schools. The State of Zacatecas has passed a law which provides for the establishment of schools for the promotion of popular education. The law requires one public school in every village of five hundred inhabitants ; with additional schools for girls in the larger villages. Primary education is declared essential, and made compulsory. The latter provision is not likely to be enforced ; yet the passage of such a law shows a progressive earnestness very rare in Mexico. A similar feeling is awakening in other parts of the country.

JAMAICA.—One of the fruits of an improved financial condition of the colony, is the devotion of ampler means to the sadly neglected work of educating the people. The Government has just proposed to increase largely the expenditure for education. But even on this enlarged scale the expenditure will be miserably small, and totally inadequate, being not more than ten cents *per capita* for the whole population. There is promise, however, of better things. Model schools on the industrial system are to be established in different parts of the island, and put in charge of trained teachers sent out from England. Some of the teachers have already arrived, and arrangements are in progress to begin the work.

ENGLAND.—Another movement for the extension of education has been organized in Birmingham. Private meetings have been held, the result of which has been a determination to form a "National Educational League," the object being the establishment of a system which shall secure the education of every child in England and Wales. The following propositions have been agreed upon : "Local authorities shall be compelled by law to see that sufficient school accommodation is provided for every child in each district. The cost of founding and maintaining such schools as may be required shall be provided out of local rates supplemented by government grants. All schools aided by local rates shall be under the management of local authorities, and subject to government inspection. All schools aided by government rates shall be unsectarian. To all schools aided by government rates, admission shall be free. School accommodation being provided, the State or the local authorities shall have power to compel the attendance of all children of suitable age not otherwise receiving education." The co-operation of the friends of education in all the large towns of the kingdom is to be invited, and a general meeting called for the arrangement of plans to carry out the movement. It will be observed that the projectors of the "League" propose to begin their self-appointed work right end foremost ; sufficient school accommodation and free admission preceding compulsory attendance.

SPAIN.—Our readers are aware that the release of the public schools from church control was one of the first acts of the revolutionary party. The first conflict under the new regulation occurred recently at Pamplona. The occasion was a letter from the Bishop of Pamplona, expostulating with the master of the normal school at Navarra, for inculcating "ideas contrary to the doctrines and dogmas of the Catholic Church," and asking for all the assurances which in so delicate a matter could tranquillize his prelatical heart. Instead of such assurances the Bishop got only the curt reply ;—"not having any other judge, according to existing legislation, than my own conscience, respecting the doctrine which I teach in my school, and your excellency not having any legal intervention in public instruction, I have nothing to answer to your official communication."

CURRENT PUBLICATIONS.

TO correct the erroneous views popularly entertained in this country with reference to the Chinese, as the first step toward the cultivation of "that mutual respect and sympathy which ought to characterize two great nations whose interests and destinies are in the future to be so closely united," the Rev. John L. Nevius has prepared a general description¹ of China and its inhabitants, its civilization and form of government, its religious and social institutions, its intercourse with other nations, and its present condition and prospects. The material of the work was gathered during ten years of missionary labor, which brought the author into familiar intercourse with all classes of the people, in many different parts of the empire. The book is crammed with information concerning the every-day life and character of the Chinese, which, though sometimes a little dry in the reading, serves in the end to give perhaps a better idea of that great country and its peculiar people, than could be obtained in any other way, except by actual and prolonged living in the "Middle Flowery Kingdom." Those interested in the religious condition and wants of the Chinese, and the character and results of the labors of missionaries, will find the book exceedingly interesting and instructive.

It is a characteristic of English travellers, that they are apt to see more with their ears than with their eyes. What they "see" depends entirely upon the company they keep. Mr. Dilke is an example. His "record of travel in following England round the world"² is less a record of things seen than of things heard. The untrustworthiness of his eyes is something comical, at least when employed in regions we are familiar with. But his ears are excellent, and he made good use of them. His association was mainly with the social and political leaders of the countries he visited; and being a man of liberal views and generous instincts, he seems to have caught and happily expressed the spirit of the "dominant race" under the most widely varying circumstances. We have seldom read a book of travel with greater interest. His account of New Zealand and Australia we found particularly interesting.

THROUGHOUT his "Life of Jesus of Nazareth,"³ Mr. Abbott evinces a firm conviction of Christ's divinity, but nowhere thrusts upon the reader a discussion of any of the doctrines which have divided the orthodox churches. In reference to the Sabbath and Temperance questions, he takes a somewhat independent position, which he fortifies with strong arguments. The chief worth of the book is in the investigation of the Jewish Government and the condition of the nations at the beginning of our era, and in the geographical descriptions.

Mr. Abbott has evidently bestowed much care upon the selection of material. The book is well illustrated, and may perhaps gain a somewhat more than ephemeral popularity.

¹ China and the Chinese. By the Rev. John L. Nevius. With a Map and Illustrations. New York: Harper & Brothers.

² Greater Britain: a Record of Travel in English Speaking Countries during 1866 and 1867. By Charles Wentworth Dilke. New York: Harper & Brothers.

³ Jesus of Nazareth: his Life and Teachings. By Lyman Abbott. New York: Harper & Brothers. Crown 8vo, pp. 522. \$3.50.

COMING just at the time when there was a general demand for something fuller and more trustworthy than the meagre and prejudiced accounts of our new Arctic possessions, given by correspondents and lobby-agents, Mr. Whymper's narrative of travel and adventure in Alaska¹ has proved to be one of the most timely and readable books of the season. Attached as artist to the expedition sent out to survey a route for the projected Russian American Telegraph, Mr. Whymper became acquainted with a considerable portion of the territory, much of which had never before been explored. The story of his travel is pleasantly told, and, as might have been expected from his profession, admirably illustrated. The book is full of information concerning the character, climate, resources, and inhabitants of Alaska, and, on the whole, gives a much better opinion of the country than its latitude would give reason to anticipate. The publishers' work has been excellently well done.

We have but little regard for the dreary compilations that serve as elementary text-books of science. As a rule they are bald, dry, inaccurate, and unprofitable. The committing to memory of a dozen of them would give a pupil less information, and awaken a far less lively interest in natural phenomena (if it did not destroy such interest altogether), than a single reading of "Wonders of Optics," "Thunder and Lightning," or "Wonders of Heat,"² which a wide-awake boy would accomplish in a few evenings. These are no dry compends of the laws and theories of natural science, unintelligible to children; but stores of most entertaining descriptions and explanations of the marvels of nature, science, and art. We know of no books better suited to amuse and instruct the young, or to create in them habits of observation and a taste for scientific studies. We should like to see them in every school and family library.

THE third volume of Chase and Stuart's Classical Series³ is, like its predecessors, correct, scholarly, and attractive. The orations are fourteen in number,—a richer selection than usually found in text-books. The plan given of the Roman Forum is a valuable addition.

J. W. Schermerhorn & Co.: LIBRARY OF EDUCATION. Vol. II. LOCKE.—MILTON. 32mo, paper, 160 pp., 20 cents.—MORAL CULTURE OF INFANCY, AND KINDERGARTEN GUIDE. By MRS. HORACE MANN and ELIZABETH P. PEABODY. Revised Edition. 12mo, \$1.25.

Harper & Brothers: THE POETICAL WORKS OF C. G. HALPINE (Miles O'Reilly). 8vo, cloth, \$2.50.—HER MAJESTY'S TOWER. By W. HEPWORTH DIXON. 12mo, cloth, 60 cents.—PRE-HISTORIC NATIONS. By JOHN D. BALDWIN, A. M. 12mo, cloth.—MY RECOLLECTIONS OF LORD BYRON. By the COUNTESS OF GUICCIOLI. 12mo, cloth.

C. Scribner & Co.: CHIPS FROM A GERMAN WORK-SHOP. By MAX MULLER. 2 vols., crown 8vo, \$5.

Leypoldt & Holt: BIOGRAPHICAL SKETCHES. By HARRIET MARTINEAU. 8vo, cloth, pp. 458.

Fields, Osgood & Co.: THE BRAUNVILLE PAPERS. By MOSES COIT TYLER. 12mo, \$1.50.

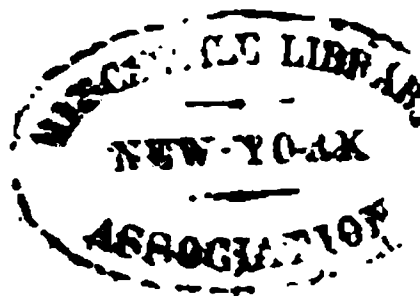
M. W. Dodd: BEFORE THE THRONE: or Daily Devotions for a Child.

S. R. Wells: HOW TO READ CHARACTER. A new Illustrated Handbook of Phrenology and Physiognomy, 12mo, cloth, \$1.25.—MEMORY'S TRIBUTE TO THE LIFE, CHARACTER, AND WORK OF THE REV. THOS. H. STOCKTON. By ALEXANDER CLARK. pp. 55.

¹ A Narrative of Travel and Adventure in the Territory of Alaska. By Frederick Whymper. New York: Harper & Brothers. Crown 8vo, \$2.50.

² The Illustrated Library of Wonders: (1.) The Wonders of Optics. By F. Marion. 70 engravings and colored frontispiece.—(2.) Thunder and Lightning. By W. D. Fonvielle. 39 engravings.—(3.) Wonders of Heat. By Achille Cazin. 90 illustrations and colored frontispiece. 12mo, cloth, \$1.50 a vol. New York: Charles Scribner & Co.

³ Select Orations of Marcus Tullius Cicero, with Explanatory Notes. By George Stuart, A. M. Philadelphia: Eldredge & Brother.



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AMERICAN EDUCATIONAL MONTHLY.

JUNE, 1869.

TECHNICAL EDUCATION IN EUROPE.

I.—Sweden.

IN the summer of 1867, Lord Stanley, on behalf of the British Schools Enquiry Commission, addressed a circular to Her Britannic Majesty's Ministers abroad, calling for information relative to Technical or Industrial Education in foreign countries.

The circular indicated with great minuteness the points upon which the Commission desired to obtain information; and the replies returned were correspondingly precise and thorough, so far as the required statistics were obtainable. The circular and the replies were printed a short time ago in a special blue-book of some five hundred and fifty large octavo pages, replete with the latest information that could be gathered in regard to the number, organization, character, and objects of the technical schools of the world: the world in this case meaning Europe, there being no technical schools in the United States known to our efficient Department of Education at Washington.

From the materials collected by Her Majesty's representatives, we propose to compile a series of papers on the state of Technical Education in Europe, which we trust will prove not only of interest to our readers, but serviceable in arousing a more general interest in this, with us, much neglected department of education. The need of such an awakening may be indirectly estimated from the humiliating fact, that while the technical schools of little Switzerland afford material for some fifty pages of the volume under review, as many lines suffice for the United States. Indeed, fifty *words* are sufficient to express all that is directly said of technical education in this country; and they serve only to show that we have nothing of the kind worth mentioning.

Application for the desired statistics seems to have been made to Mr.

Barnard, as the head of the Department of Education and the nation's accredited representative in educational matters; and after such delay as befitted so important a matter, a half-page letter was returned in reply, containing some irrelevant matter about what Mr. Barnard was doing, or intending to do, the inevitable palaver about "the universal elementary education secured through public schools," a promise to give soon "our experience, such as it is," and the extremely modest remark that "we have but little to show in the way of organization of instruction in this department of education."

This edifying communication was duly forwarded to Lord Stanley, with the sarcastic comment—"Although the subject is one to which the attention of the Commissioner of Education in this country is specially directed, there do not appear to exist at present any schools exclusively devoted to such branches of education." And so we stand before the world in regard to Technical Schools! Who says we are not a *practical* people, or questions the efficiency of our National Department of Education?

For convenience, we will begin our review of European technical schools with those of Sweden.

The technical or industrial instruction afforded by the schools of Sweden aims in every case at imparting either the theoretical and practical elementary knowledge, or the scientific culture, required for the performance of the various trades. There are schools for the promotion of technical knowledge in general, and other special schools of mines, ship-building, etc. The former class comprises: *a.* The technical Sunday schools and night schools; *b.* The technical elementary schools, the Polytechnic School in Stockholm, and the Polytechnic Unions School in Gothenburg; *c.* The Technical Institution in Stockholm, and Chalmers' Polytechnic School in Gothenburg. The second class comprises: *a.* The Elementary Mining School in Filipstad, and the School of Mines in Falun (which latter is hereafter to be united with the Technological Institution); and *b.* The School of Naval Architecture in Carlsrona. Each of the schools named is complete in itself, but some of them are at the same time meant to be preparatory institutions for such pupils as desire to enter some one of the higher educational establishments. Thus the Sunday schools and night schools constitute preparatory schools for the technical elementary schools, which in their turn prepare pupils for the Technological Institution, or for the Chalmers' Polytechnic School, which holds about the same rank.

Although several of the schools named are more or less connected with special trades—inasmuch as persons who have already joined a trade are in preference accepted as pupils as well in the Sunday schools and night schools as in the Polytechnic School in Stockholm and the Polytechnic Unions School in Gothenburg—the schools of mines and the school of

ship-building are nevertheless the only institutions which are directly connected with any special branch of industry. The pupils in these institutions are taught not only the theoretical but also the practical part of the business : those of the schools of mines by taking part in the various works carried on in the mines, smelting establishments, etc., and those in the school of naval architecture by working in the dockyards. All classes of persons connected with industry, be they masters, journeymen, or mere laborers, are, as a general rule, admitted into the schools referred to, but the Sunday schools and night schools are more especially suited for working mechanics, while the technical elementary schools are adapted for those who may desire to acquire greater insight into the various subjects connected with their trades, so that to their practical proficiency they may join such general knowledge as will enable them to fill the position of foremen, managers, etc. The Technological Institution and Chalmers' Polytechnic School are intended for persons desiring to obtain the scientific education required for technical pursuits. The schools of mines are intended to educate able mining engineers, mining mechanics, and managers of ironworks ; while the principal object of the school of naval architecture is to provide good shipbuilders and competent workmasters for the dockyards. The rest of the schools that have been referred to, viz., the Polytechnic School in Stockholm, and the Polytechnic Unions School in Gothenburg, combine the objects of Sunday and night schools, and technical elementary schools.

The Sunday schools and night schools are, as a general rule, supported by the commune to which they belong, without any contribution from the funds of the State ; but an exception is formed by the Sunday and evening schools in Eskilstuna, which have been principally instituted with a view to encourage the iron and steel manufactures of the town, and which enjoy a Government subsidy of 5,000 rix dollars annually. The Polytechnic Unions School in Gothenburg is maintained by the commune, and by private contributions. The technical elementary schools enjoy Government grants for the salaries of the teachers, the purchase of instruments, and other expenses connected with the instruction, but the commune must defray the cost of the building and of the internal arrangements of the school. The present amount of the Government grant is 12,000 rix dollars annually for each of these schools. The Polytechnic School in Stockholm, the building for which was erected partly at the expense of the commune and partly at the public expense, has just obtained a Government grant of 79,000 rix dollars; added to which, the school enjoys contributions from the commune, and from the Swedish Industrial Union, and frequently has legacies left to it by private persons. The Technological Institution is maintained entirely by the State, the amount expended on it being at present 55,500 rix dollars yearly. Chal-

mers' Polytechnic School is founded and chiefly supported by means provided by a private individual, but enjoys also a Government grant amounting at present to 21,000 rix dollars. The School of Naval Architecture is supported by the State, the present annual grant being 7,000 rix dollars. The School of Mines in Falun is supported partly by the State, partly by the Mining Association; the annual public grant is 9,700 rix dollars. The Elementary Mining School in Filipstad is entirely maintained by the Mining Association.

The number of pupils in the school term 1865-1866 was: *a.* In the Sunday and night schools in Narkoepping, Malmoe, Oerebro, Boras, and Eskilstuna (the only ones regarding which official reports are furnished), 633. *b.* In the technical elementary schools 192. *c.* In the Polytechnic School in Stockholm 1,346, of which 856 were male, and 490 female scholars. *d.* In the Technological Institution 100. *e.* In the Polytechnic Unions School in Gothenburg 300. *f.* In Chalmers' Polytechnic School 107. *g.* In the School of Mines in Falun 20. *h.* In the Elementary Mining School in Filipstad 20. *i.* In the School of Naval Architecture 25. Total number reported 2,743.

The instruction given in the above-named schools (which are all day-schools), is either entirely, or in a great measure, gratuitous. In all the technical elementary schools the pupil pays a small entrance fee of 4 rix dollars 50 oere, or at the highest 10 rix dollars; and, in two of these schools, as well as in the Polytechnic School in Stockholm, and the Elementary Mining School in Filipstad, a further contribution of 18 rix dollars 75 oere for one term, in the technical elementary schools, of 50 oere a month in the Polytechnic School, and of 50 rix dollars a-year in the Elementary Mining School. Poor pupils are however exempt from these fees, if (as is not unfrequently the case) they be not defrayed by private manufacturers.

The age of admission into the various schools is as follows: in the Sunday and night schools, 12 years; in the Polytechnic School in Stockholm, 13 years; in the technical elementary schools, the ship-building school, and Chalmers' Polytechnic School, 14 years; in the Technological Institution, 16 years; and in the mining schools, 18 years. The term of instruction in the Sunday and night schools, as well as in the Polytechnic School in Stockholm, and in the Polytechnic Unions School in Gothenburg, varies according to circumstances, but no scholar can obtain a certificate who has attended the school less than one year. The course in the technical elementary schools embraces three years, in the mining schools two years, in the Technological Institutions and Chalmers' Polytechnic School, three years, and in the ship-building school four years. The pupils are all of the male sex, with the exception of the Polytechnic School in Stockholm, where women also are admitted, but

have separate hours of instruction. The ages of the scholars, beyond the earliest named above, vary considerably.

The preliminary knowledge required for admission into the technical Sunday and night schools, the Polytechnic school in Stockholm, and the Polytechnic Unions School in Gothenburg, is simply reading and writing, and, if the pupil belong to the Christian faith, a fair knowledge of his religion. For admission into the technical elementary schools, the pupils must further be acquainted with the elements of Swedish and German (or English) grammar, and have some knowledge of history and geography (more particularly of their own country), be well versed in the four rules of arithmetic, as also in common and decimal fractions, and in the elementary rules of geometry. For admission into the School of Naval Architecture about the same amount of knowledge in most of these branches is required, the requirement in arithmetic being however extended to the simple and double rule of three; and English grammar is substituted for German. The requirements for admission into the Technological Institution and Chalmers' Polytechnic School are, further, a knowledge of the first six books of Euclid, stereometry, equations of the first and second degrees in algebra, the elements of plain trigonometry, the use of logarithms, physics, chemistry, and mechanics, in addition to which the candidate must be able to express himself distinctly and tolerably correctly in writing in the Swedish language, and to translate readily from easy German authors. Very nearly the same acquirements are demanded for admission into the school of mines, with this difference, that the candidate must have gone through a more extended course of chemistry, natural philosophy, and mechanics, or must have passed the examination in the science of mining, etc., at the university.

The subjects of instruction in the Sunday and night schools are principally arithmetic and geometry, linear and free drawing, mechanics, natural philosophy, and chemistry (with special reference to the particular branches of industry carried on in the locality in which the schools are situated), modelling, book-keeping, and orthography. The mode of instruction is partly by lectures, illustrated when necessary by experiments, drawings, and models, or by the exhibition of manufactured articles, raw materials, etc., partly by questions relating to the various subjects taught, and partly by drawings and other works executed under the guidance of the teachers.

The subjects of instruction in the technical elementary schools are :
1. Mathematics, comprising arithmetic, elementary geometry, two degrees in algebra, the use of logarithms and series, and trigonometry. 2. Linear drawing, comprising plain drawing, elevations, and perspective of tools, machines, buildings, etc., etc., principally from models. 3. Free drawing, principally of ornaments, household furniture, and other objects

applicable in architecture, crafts, and trades ; also modelling in clay and wax, with a view to the development of taste and skill in certain branches of industry. 4. Mechanics, theoretical as well as applied to machines, or connected with manufactures, agriculture, or including the elements of architecture and mechanical technology, comprising a knowledge of the most important raw materials used in those various branches of industry, and of the manufactured produce. 5. Practical work in the workshops of the school. 6. Natural philosophy in general, and with special reference to the various trades, and illustrated by experiments. 7. Chemistry, partly general, partly applied to trades, and elucidated by experiments, and the exhibition of materials, and practised in the laboratory of the school. 8. Botany and zoology, principally with reference to plants and animals, technically useful, and such parts of these as enter into trade and industry. 9. Exercises in languages ; and finally, 10. Book-keeping and the science of commerce. The extent to which the different subjects are taught varies according to the requirements of the industrial enterprise of the localities in which the schools are situated. The method of teaching is very nearly the same as that employed in the technical Sunday and night schools.

In the Polytechnic School in Stockholm instruction is given in :—1. Mathematics, to the same extent as in the technical elementary schools. 2. Linear drawing, with the rules of perspective, projection, and shading. 3. General drawing, embracing linear, block, ornamental, figure, and pattern drawing. 4. The theory and designing of machinery. 5. General architecture, including naval architecture and designing. 6. Engraving on stone, copper, and wood. 7. Modelling in clay and wax. 8. Painting in water colors, lime colors, oil, etc., and on porcelain. 9. Making flowers. 10. Modern languages. 11. Book-keeping, etc. In general the school endeavors in each of the technical classes to adapt the instruction to all important branches of industry which exist in the country, or which it is sought to introduce.

The Polytechnic Unions School in Gothenburg aims at the same objects as the Stockholm School, but, owing to its inferior resources, the instruction does not as yet embrace the same number of subjects. The method of instruction in both schools consists partly in lectures, partly in lessons, but principally in practical exercises.

The subjects taught in the Technological Institution and in Chalmers' School are :—1. Pure mathematics, comprising principally analytical geometry, and the elements of the theory of equations, as also of the differential and integral calculus. 2. Practical geometry, comprising land surveying and levelling with regard to the construction of roads and water-works, and other technical matters. 3. Descriptive geometry in general, and also with special application to constructions of stone and wood, and

to perspective and the delineation of shadows. 4. Theoretical mechanics, or the theory of the balance and motion of bodies, comprised in which are the theories of the arch, of the pressure of loose masses of earth, and of such constructions in wood and iron as occur in building works. 5. Applied mechanics, referring to machines, engines, and instruments which either are destined to put into action or to communicate the powers of nature, or such as have a more general application. 6. Mechanical technology, comprising a practical knowledge of such manufactures as require exclusively, or at least in a great measure, mechanical means for their production, and also of the raw materials required for these, and of the properties of the manufactured produce. 7. General physics. 8. Applied physics, with special reference to the technical application of heat, light, electricity, and magnetism. 9. General chemistry. 10. Chemical technology, comprising a practical knowledge of such manufactures as principally depend upon chemical operations, and also of the raw materials used in these operations, and of the properties of the manufactured products. 11. Mineralogy and geology, in as far as these sciences are of any practical use. 12. Architecture in its general principles, and more particularly domestic architecture. 13. The construction of roads and waterworks. 14. Drawing, linear and free, and the washing-in of colors. And, in Chalmers' Polytechnic School—15. Modelling, free standing figures, bas-reliefs, and ornaments in clay, wax, and plaster-of-paris. In addition to the above the pupils are taught in the workshops of the schools to handle the tools, and the simple kinds of machines used for working in metals and in wood.

The method of instruction consists:—*a.* Lectures delivered by the teachers, illustrated in such cases as require it by models, drawings, tests, and experiments. *b.* Examination of the pupils in the subjects taught, and in the solution of the problems given. *c.* Description and drawing of machines, apparatus, buildings, and other subjects of instruction, and the execution of plans of industrial enterprises, in each case under the guidance and superintendence of the respective masters. Finally—*d.* Practical exercises, under superintendence of masters, in surveying and levelling, applied mechanics, general chemistry, chemical technology, drawing, and working in metals and wood.

The subjects taught in the School of Mines at Falun are principally analytical chemistry, mineralogy, metallurgy, the surveying of mines, and practical geometry, mechanics, more especially applied to constructions used in mining enterprise, geology, the science of mining, including the theory as to the locality in which the useful metals are generally found, and the means of finding them, the blasting and the measurement of mines. In addition to the above the pupils acquire practical knowledge by visiting, with their teachers, the various mines and furnaces on the

spot, as well as in different other localities, and by drawing plans on the basis of the measurements made on these occasions. As the School of Mines will in future, as has already been mentioned, be united with the Technological Institution, it will be necessary to add to the three divisions of instruction already existing in the latter (*viz.*, the construction of machinery and mechanical technology, the construction of roads, and hydraulics and chemical technology), a fourth for the science of mining in its three branches, mining mechanics, the construction of furnaces and other smelting works, and mining engineering.

The subjects taught in the Elementary Mining School in Filipstad are theoretical and practical geometry, plane trigonometry, physics, mechanics, linear drawing, levelling, chemistry, geology, mineralogy, and metallurgy. The scholars acquire, in addition, by visiting mines, furnaces, or other works, practical knowledge in all matters concerning the treatment of iron.

In the School of Naval Architecture the subjects taught are—*a.* Mathematics, comprising planometry, stereometry, algebra, plane trigonometry, conic sections, mechanics, hydraulics, descriptive geometry, differential and integral calculus. *b.* Designing and working drawings of merchant vessels. *c.* Theoretical and practical ship-building, mast-making, and a knowledge of the materials used in ship-building. *d.* The measurement of ships. *e.* The science of steam-engines. *f.* Linear drawing. *g.* Free-hand drawing. *h.* The English language. *i.* Practical participation in ship-building, each pupil being bound to be employed at least 100 days in the year at work in the docks, for which he receives daily pay.

None of the educational institutions mentioned enjoy any special privileges, unless it be considered such that the pupils of the Mining School have a negative right to appointments in the office of the Mining Department. For the exercise of any branch of technical industry nothing more is required, in general, according to the statutes of the Corporations, than a testimonial of good conduct, and that the person shall possess full right over himself and his property. If there be a question of the establishment of a manufacture, the operations of which involve danger to life and property if not carefully managed, then, indeed, the law demands that he who undertakes it must either himself give proof of understanding the matter, or of having selected a competent person to superintend the works; but there is no rule that such persons should be sought among the pupils of the various technical schools.

With exception of the cases named below, the teachers in the schools referred to are appointed by the directors of the schools. The superintendent (who is at the same time head-master) of the Technical Sunday and Evening Schools in Eskilstuna is appointed by the Board of

Trade. The superintendents of the Technical Elementary Schools, the professors in the Technological Institution, the superintendents of Chalmers' Polytechnic School, and of the School of Naval Architecture, as also the superintendent and the second master in the School of Mines, are appointed by the King. The superintendents of the Technological Institution and the Polytechnic School in Stockholm, who are not of necessity bound to give instruction, are also appointed by the King. The superintendent (who is at the same time head teacher) in the Elementary Mining School in Filipstad is appointed by the Board of Mines. The qualifications demanded of the teachers are, first, full knowledge of the subject which they are to teach, and great capacity for teaching; and the qualifications are tested partly by certificates of competence, to be presented before appointment, and partly by practical trials in the schools. In general, the candidates have either passed University examinations, or have been pupils of the higher technical institutions, and have, moreover, acquired further practical knowledge. The facts that the number of persons who seek admission into the schools is constantly increasing, and that manufacturers and others engaged in industrial pursuits exert their influence in every diet to promote the increase or extension of technical educational establishments, are sufficient proof that the use of such schools is evident to the public, and duly appreciated.

The taste and skill evinced in industrial undertakings have certainly improved through the influence of the schools.

OUR POPULAR SCHOOL-BOOKS.

II.—*Elementary English Grammars.*

WE begin our examination of grammars with elementary works. For this purpose, we have selected those named below,¹—books that are more or less in general use, and fair representatives of elementary grammars generally. To examine these, therefore, is to go over the entire ground. And yet we do not mean to go critically over them all.

¹ Gould Brown's First Lines of Eng. Gram.; pp. 122. New York: Wm. Wood & Co.
 P. Bullions' Practical Lessons in Eng. Gram.; pp. 132. New York: Sheldon & Co.
 S. W. Clark's First Lessons in Eng. Gram.; pp. 156. New York: A. S. Barnes & Co.
 W. C. Fowler's Common School Gram.; pp. 258. New York: Harper & Brothers.
 S. S. Greene's Introduction to Eng. Gram. pp. 224. Philadelphia: Cowperthwait & Co.
 S. Kerl's First Lessons in Eng. Gram.; pp. 168. N. Y.: Ivison, Phinney, Blakeman & Co.
 W. H. Parker's Introductory Lessons in Eng. Gram.; pp. 119. Ph.: Eldredge & Brother.
 T. S. Pinneo's Primary Grammar; pp. 160. Cincinnati: Sargent, Wilson & Henkle.
 G. P. Quackenbos's First Book in Eng. Gram.; pp. 120. N. York: D. Appleton & Co.

A glance is sufficient to show the scope of some of them, and their unpractical character as text-books of grammar.

Clark's basic idea, for example, is not grammar at all, but analysis and what he is pleased to call synthesis. With the exception of a single exercise of five short sentences, on p. 127, the correcting of false syntax is ignored. One might suppose from appearances that the book was designed to teach the drawing and labelling of cheeses. The process is called diagraming as an aid to analyzing. And analyzing, with Clark, consists in taking a given sentence, and arranging the cheeses in such a way that when properly labelled they will show, to those who understand the system, the structure of the sentence and the relation of the words one to another. Synthesis is the converse of this. A diagram is given, and the pupil is expected to make a sentence that will fit it. Thus sentence after sentence is to be "made to order!" like a pair of shoes or pantaloons, to fit. These "analytical" and "synthetical" processes constitute the leading feature and occupy the greater part of the book. Of what possible use they can be, in a grammatical or any other point of view, is a mystery to us. And yet they are gravely styled *Practical Exercises*. "That's him" would fit one of these diagrams as well as "Knowledge is power;" and, for aught we find in the book to the contrary, the grammar of the former is as good as that of the latter. In fact, syntax, as a subject in which the learner is to be instructed, enters so little into the book that it is exceedingly hard to find it. We dismiss the work, therefore, as not coming under the head of what are properly called *grammatical* text-books.

Parker's book, a neat and attractive volume, very properly dispenses with orthography, orthoepy, and prosody, but very improperly begins with analysis and synthesis, to which it devotes eighteen or twenty pages before really entering upon the subject of grammar. This is decidedly reversing the true order. In addition to this, there is a good deal of remark in fine print, which is designed to explain the body of the text, but which is practically just so much rubbish. What is worse than all else, however, is the fact that the author wholly ignores the correcting of errors. It is to this, doubtless, that we are indebted for such specimens of English as, "Able *to fully* understand," p. 4; "A child *of three years of age* can tell a great deal of what happens before him, and can relate what he *does, easily and correctly*," p. 5; "When a person *speaks or writes his own words*, he should be able to give his *exact* meaning *in the right way*, so that others may know what he *means, without mistake*. To *do so* [i. e., to *be* able, etc.] he must *know* not only *the words* to be used [instead of 'know not only *what words* should be used'], but how to use them," p. 6. We confess, we are not surprised that a man who writes so like a school-boy should in these days make a "grammar" without exer-

cises for correction in false syntax. It is like giving us the play of Hamlet without the Prince of Denmark in it. Whatever the work professes to be, it falls far short of what an elementary "grammar" should be. We shall not, therefore, trouble ourselves with taking any farther notice of it.

Greene evidently has correct notions concerning the province of grammar; but, for all this, he aims after too much. He thinks it necessary that an introductory text-book on this subject should include almost everything bearing indirectly as well as directly upon the attainment of correctness in speech. Hence, the volume treats not only of orthography, composition, and analysis, but of the cultivation of the powers of observation, the obtaining of clear conceptions, the enriching of one's vocabulary, etc. These may all be important points; but we protest against their being lugged into a grammar, and an elementary grammar at that. It is true, as Greene says, p. 10, "The formation of clear and distinct ideas lays the foundation for a correct and appreciative use of words." But if everything tending to the formation of such ideas is a part of grammar, Prof. Greene himself has yet to learn the first principles of the subject; for he says, "A noun or a pronoun representing the object spoken of may be either the speaker himself, the person spoken to, or the person spoken of." Beginners, we are satisfied, must be as much at a loss as we are to understand how a noun or a pronoun may be a person. A similar confusion in the author's mind concerning words and things appears, to mention no other instance, on p. 44: "When the *actor* is the *subject of the sentence*," etc. "When the *receiver* of the action is the *subject*," etc. We point out these failures on Greene's part to express himself correctly, and therefore to adapt himself to the understandings he addresses, not because he alone errs herein, but to show that he can hardly expect, on his own terms, to be taken as the best of guides to "a correct and appreciative use of words," since, with all the stress he lays on the importance of forming clear ideas in order to the attainment of a correct expression, he himself is not pre-eminent for his perspicuity. The book consists of two parts, an Elementary and an Intermediate Course. The former is generally simple enough; but for teaching grammar we should never use it ourselves. It makes the learners go all the way around Robin Hood's barn before they can get fairly started in the subject. In short, the work does not appear to us to be a very practical text-book for beginners. Its treatment of the subject has reference to the analysis, rather than the syntax, of sentences. Its arrangement of rules may be systematic, but it is certainly not natural. Many things in the book, we have considerable difficulty in finding without going to the index; and, even then, we are not always successful. There is a vagueness, too, about the import of several of the "Cautions,"—a thing which ought to be avoided in every text-book.

Of all our writers of elementary grammars worthy of notice, Kerl has succeeded in getting the farthest out of the old ruts. But, on the whole, we are not sure that we do not prefer the old ruts to the paths he takes. He treats the subject under the three heads of Definitions, Inflections, and Constructions. This treatment enables him to separate things that are naturally connected ; as, for example, the definitions of numbers and cases, and the declension of nouns, etc. These are separated by more than forty pages of definitions and other matter. But this is not all. He has a happy Hudibrastic faculty of bringing together oftentimes what other writers have never thought of uniting. As a single example out of many that might be given, take the following,—one of the author's special rules for correcting false *syntax* : “Avoid all improper modes of expressing *comparison* or *the plural number*.” The rule, it will be observed, pertains to the *forms* of words, and therefore belongs, of course, to Etymology—“Inflexions,” as Kerl calls it—rather than to Syntax or “Constructions.” But this is a small matter. The author has yielded, too, to what seems to be the popular demand, and given ten pages to Analysis. The twelve pages on “fundamental ideas and grammatical development of sentences”—an expression, the meaning of which beginners of course understand—and the eight pages following them, on “the logical development of sentences,” appear to us to be just so much misplaced or useless matter. Besides this, there is a great deal of rubbish in the way of loose talk among the opening pages, which is neither read nor studied by the pupil, nor dealt out to him by his teacher. With these exceptions, which embrace certainly not more than one-third of the book, the author confines himself quite closely to his legitimate subject. As to his having adapted himself to beginners, we have our doubts. Take, for example, his definition of a collective noun, p. 26,—“A common noun that denotes, in the singular form, more than one object of the same kind.” Suppose we take in illustration, “The *deer* are in the park ;” “The *sheep* are in the yard.” *Deer* and *sheep*, according to this definition, are collective nouns ; for they are singular *in form*, and denote more than one. So are *library*, *chain*, and hundreds of other words, which, though not collective nouns, denote or imply a number of “objects of the same kind.” There is, in the book, much of this indefiniteness of teaching ; as, “No needless word should be used ;” “No necessary word should be omitted ;” “Great care should be made to select the most appropriate word.” Such rules as these, short and sound though they may be, are too vague and general for an elementary work. On what ground ought a child, without any other instruction than one of these rules, to be expected to show why there is a needless word in the sentence, “Their situation can hardly be conceived of?” or a word needed in the sentence, “White sheep are much more common than black?” or

an inappropriate word in the sentence, "Very many rivers empty into the Mississippi?" It strikes us that some older heads might be puzzled to see the appropriateness of our author's teachings here. But this is not all. There is a general, indefinable vagueness pervading the volume, which can be better felt than described. It arises in part from the author's arrangement, and in part from his failure to express himself in words that really embody his meaning. Examples: "A finite verb is a verb that *predicates* the act or state of its subject; as, 'The plant *grows*.'" That is, *grows* "predicates the act," not of the plant spoken of, but of its subject, the word *plant*! "A noun or pronoun, used for explanation or emphasis, by *being predicated of another*, must be in the same case; as, 'Jones is a *lawyer*.'" That is, the noun *lawyer* is predicated of the noun *Jones*! But how a *noun* can be predicated, may be a question. If we were to use the book, we certainly should want to have the author explain what he means by this. Then, to cap the climax, he says, "The core of syntax in all sentences is predication." The little fellows for whom this is designed, probably know what the core of an apple is; but we should not be surprised if they could not say what "the core of syntax" means.

The remaining five books may be thrown into two classes; the one (including Brown's, Bullions', and Fowler's), apparently prepared for pupils of some maturity; and the other (consisting of Pinneo's and Quackenbos's), better adapted to quite young beginners. No one of these books is confined strictly to what we consider the true province of grammar. And yet Bullions, Fowler, Pinneo, and Quackenbos come as near to it, perhaps, as we have reason to expect. Bullions, merely for form's sake, introduces orthography and prosody, giving a single page to each. To composition he allows three pages at the end of the volume. Of Brown's First Lines, about one-sixth is given to orthography and prosody; while the later editions, in our judgment, have not been "improved" by the introduction of "analysis." This subject, however, has been judiciously placed after syntax, where it should be, if introduced at all, so as to supplement the study of grammar. Still, we think the subject is above the comprehension of beginners, and should, on that account if on no other, be omitted. But there are teachers, we suppose, who would not be satisfied with a grammar without "analysis;" and, therefore, the publishers have had the book "improved."

On taking a comparative view of the three books in the first class just mentioned, we find that, as a whole, the most systematic and best arranged of them is Brown's. He begins by laying out his work methodically, and aims to treat each part by itself in the natural order of development. Still, his arrangement of the exercises in false syntax is bad. Instead of their having been thrown together at the end of the rules and notes, they

should have been inserted as in Bullions' book, each rule being followed immediately by exercises in false syntax ; then, at the close of all the rules, a few supplementary miscellaneous exercises calculated to test and fix the pupil's knowledge. This would have enhanced the value of the work as a text-book. It is true, the teacher *may* assign his lessons from day to day so as to couple the exercises successively with the rules under which they come. But many will not do this ; and young pupils are liable to blunder if thus compelled to "skip about."

Bullions' arrangement is in some respects better than Brown's, though not as a whole. He is certainly inferior to Brown in the collocation of his syntactical rules. But his arrangement of exercises in false syntax is far preferable to Brown's, and more practical. In the general method pursued there is, perhaps, very little to choose between the two. They are both more than ordinarily systematic, and, in this respect, worthy of commendation.

Fowler's general method is the same as Bullions',—both books being provided with questions placed at the end of each lesson. His arrangement on the whole is good. His etymology and syntax, however, intrude occasionally upon each other. His syntactical rules are designed to be methodical and exhaustive ; but they are altogether too numerous, and lacking in exercises for the correction of false grammar. Such exercises, in abundance, are placed afterward, toward the close of the book, with a correct sentence occasionally thrown in ; but for what object we do not know. Nor do we know why we should find such ugly mistakes in the book as these : "Of what gender *are* each of the following nouns?" p. 18 ; "Milton's *Paradise Lost* and *Dante's Jerusalem Delivered* are the great productions of modern times ;" pp. 222, 242. To say nothing else, such blunders are unworthy of one who claims, p. iv., that "he who makes himself familiar with the teachings of this little volume need not fear to open his lips in company, or to commit his thoughts to paper."

Brown's *First Lines* being but an abridgment of his *Institutes*, the author makes no attempt to simplify his language. Except for the fact that in it there is less ground to go over than in the higher work, a beginner would find the latter as well adapted to his capacity as the former, and in some respects better. In fact, we should ourselves never use the *First Lines*. For young beginners, we should select some other book ; and for those of sufficient maturity to understand this, we should decidedly prefer the author's *Institutes*.

Bullions' book is also an abridgment. But it is better adapted to children than the large work, in consequence of the introduction of questions, and of some simpler exercises. Still, we believe that, even with these changes, the author errs in supposing that, with this manual, "*inexperienced* teachers will be at *no loss* to conduct a class of *very young* pupils

through a *profitable* initiatory course of English Grammar." Take his definition of person,—“the *relation* of a noun or pronoun *to what is said* in discourse.” What possible idea can a “very young pupil” get out of this? Or what satisfactory explanation of so palpable an untruth can an “inexperienced teacher” give? Take his explanation of a subject: “A verb in the active voice tells what some person or thing does. That *person* or *thing* then is its *subject*, and is *in the nominative case*!” This may be adapted to “very young pupils;” to us, however, it has a very hazy appearance. Here are some of Bullions’ examples of false syntax: “He loves I;” “We know he and they;” “A church are made up of all the members;” “Hers going away was not observed.” Such sentences children neither make nor are liable to make. Instead, therefore, of being set before them for correction, they should be carefully excluded. The practical object of exercises in false grammar is to enable one to correct such errors as he really makes or may be supposed to be in danger of making. The fewer, therefore, of examples like these, the better. But Bullions is not alone in giving such examples. Only he seems to have more of them than the others have.

Fowler’s book is professedly “prepared for general use in Common Schools;” but it is not so well adapted to beginners as it should be. On the second page, pupils are told, before learning the technical meaning of the word *object*, that “a word which connects an object with a verb or an adjective is a preposition.” They may very naturally wonder what this means. On the next page, after defining a noun as “the name of a person, place, or thing,” the author adds, “Or, a Noun or Substantive is a word which can by itself, with all *finite* verbs, form the *subject* of a *proposition*, and with the verb *to be* can form the *predicate* of a proposition.” Alternative definitions like this, with which the book abounds, are not desirable, especially in an elementary work. If they must be used, they ought not to display such an utter want of adaptation. Among examples for analysis, on p. 97, is a quotation from Milton, containing the line,

“Showers on her kings barbaric pearls and gold.”

Such examples,—and the book has several of them,—are adapted to more advanced scholars only, and should have no place in an elementary treatise of any kind. Occasionally, the author gives us a verbal thunderbolt. Here is one, let fly without any previous intimation: “Verbs signifying to give, etc., take both a Direct and a *Traditive* object;” p. 115. Well might common scholars stand aghast, and stare at this! In fact, the author’s general style is Johnsonian rather than Addisonian. We give a specimen or two: “Conjugation is the *distribution* of the *several inflections* or *variations* of a verb in their *different voices, modes, tenses, numbers, and persons*,” p. 65. “Every adjective *susceptible* of comparison may also

be compared by the use of the adverbs *more* and *most*; as, *More wise, most wise*. This *mode of comparison* is generally used in the case of long words, for *euphonic reasons*, while the other is used in the case of short words;" p. 32. A more childlike writer would have spoken in somewhat simpler terms.

Of the three books—Brown's, Bullions', and Fowler's—for beginners, we have no hesitation in giving the preference to Bullions'. It is, on the whole, better adapted to them and more practical.

Pinneo and Quackenbos, the authors of the remaining two books, appear to be conscious that they are writing for children. Not that their books are as clear as they might be, but clear in comparison with others. They are, on the whole, plain and well adapted to beginners. Pinneo especially aims to make everything clear and suited to children. There is, however, what seems to us an unnecessary vagueness about some of his precepts. Thus, "avoid the use of a plural for a singular pronoun." Among the violations of this precept are given the following: "Each one of them expressed their opinion;" "Each one of you will give your opinion;" "Each one of us will give our opinion." Without any farther instruction, a young pupil would hardly be able to show why the use of the words *their*, *your*, and *our* here are improper, if indeed he saw any impropriety in it. So with the following: "Avoid using the pronoun *them* for the adjective *those*." We know a little fellow who once objected to the use of *them* in the sentence "I love them that love me," on the ground of its being contrary to this rule. He supposed Pinneo meant that, in such cases, *those* should be used instead of *them*. Had the author said, "Avoid using the pronoun *them* as an adjective," the boy might not have made the mistake. Such a direction as the following, too, with nothing to explain its meaning farther than a single illustration, gives a child no idea of what is required: "Avoid using the wrong tense of the infinitive; as, I intended to *have seen* him." Quackenbos avoids this indefiniteness in his syntactical precepts. And yet some of his definitions are rather vague; as, for example, "A conjunctive adverb is one that connects *parts of a sentence*," instead of "connects *clauses*." For, in the sentence "John is more diligent than James," *more* may be said to connect the parts *is* and *diligent*.

These two books, however, have none of the namby-pamby talk called "explanatory," with which some of the others abound; though they devote too many pages to exercises in so-called "composition," which aid one to a knowledge of *grammar* just about as much as learning the multiplication table does. Both are prepared on the question-and-answer plan,—a mode which, while it has its opponents as well as its advocates, is in our judgment preferable to any other for very young pupils, and beginners generally. Besides, they give frequent review questions,—an

excellent feature which none of the other works have. It is true, both of them contain many things which we cannot endorse, and which we wish were otherwise; but in the main they are practical and tolerably well adapted to young pupils. For such pupils, we prefer them by far to any of the other elementary books; and, if required to choose between them, we should probably give the preference, on the whole, to Pinneo.



"PATSY FITZ."

A MOST unpromising subject, you would have said, had you seen him enter the school-room, that third morning. He stopped just inside the door, and stood twirling his rimless hat and grinning violently. He was ragged, and not over clean. But that was nothing in view of his shock of brilliant red hair, snub nose, dancing blue eyes, and much-bespeckled skin.

"Here's Patsy," exclaimed an old acquaintance; upon the communication of which information, the new-comer fell into convulsive laughter. "Is that all?" "No, sir." But no questions could elicit his surname. "Dun'no" and a series of jerks were the only replies. "Fitz we call him," said another, and Fitz he was thenceforth called in the school.

"Can you add?" "Yes, sir." "Subtract?" "Yes, sir." "Multiply and divide?" "Long time ago," with an emphasis on "Long." He was seated by a boy of like acquirements and required to "do" the same examples.

The busy hum of school went on. John Jones studied faithfully, while idle Tony Tarter, opposite him, kneaded paper wads to be aimed at his companions' heads. The master was busy at the blackboard explaining cube-root to Bill Tarter, whose educational career had also been chiefly celebrated for excellence in wad-making, his mature powers not being greatly assisted thereby to the comprehension of so abstruse a matter as cube-root. Two ingenious lads were redeeming the time by privately mending the damages to bat and ball, received in the morning's play. Suddenly the monotonous hum was broken by a sharp cry from James Jonson—"Patsy Fitz is a-pinchin' me!" "Not at *ah!* sir," is Patsy's smiling reply, with a peculiar sprouting-up movement singular to himself. The loud quiet was restored, but only for a season. "Patsy Fitz 's a-stickin' pins in me," cries aggrieved Lory Lawrens. "Not at *ah!* sir, he's a-pullin' of my hair hisself;" an assertion that, however surprising to Lory, was fully sustained by Fitz's unkempt head of fiery hair.

Days passed on in this manner. Patsy betrayed a fixed aversion to the mental exertion essential to a proper appreciation of mathematics. When brought to the board, he invariably fell into a state of intense amusement at the appearance of the figures. If compelled to do a "sum" on his slate, his adroitness in peering to the farthest corner of the room for assistance was such that the actual extent of his information was extremely difficult to be obtained.

It soon became evident, too, that Patsy not only made but loved a lie. Was he set in a corner alone? He brought his slate with the examples scatteringly copied from the nearest boy's. Was he seated with his back to the others? He would wriggle up laughingly with the example all awry, but closing triumphantly with the correct answer. He must have seen them from the back of his head. Again and again was he confronted with his besetting sin. "Patsy, you copied these examples." "Not at *ahl*, sir," with an overflowing delight expressed in his countenance. "But the work is all wrong and the answer is right. How could you do it?" "Did it out of me head, sir." Ah! that *might* have accounted for it. "But, Patsy, I saw you take it off from Peter Roe's slate." "Not at *ahl*, sir, never saw nobody's slate," with undiminished assurance and increasing amusement. In fact, he was shaking with laughter. "Patsy, do you know it is wicked to tell lies?" "Never tells no lies, allus tells *truffs*." He seemed to be totally wanting in moral conscience. It was doubtful whether he really knew the difference between lies and "truffs." The master labored to convince him of his errors. The kind of talk that would have reformed an ordinary boy, did not touch him. It could not be ascertained that he had any special affection through which his moral sense could be moved. His generous, hearty nature went out to all alike. His ready replies and bright remarks upon passing events were the admiration of the boys; and the master liked him thoroughly. He once appealed tenderly to the boy's memory of his dead mother; but poor Patsy knew only that she had died before he could remember, and had not the faintest conception of a mother's love from the coarse step-mother in his drunken father's home. The next day the master gave him a place by the window, farther removed from temptation. The master had scarcely resumed his other duties, after this adjustment, when he was startled by the cry, "Patsy Fitz is out of the window." Turning about, he could just discern the top of Patsy's red head, before Patsy slipped down, and with the help of the lower-story shutters, safely touched the ground, and was off. The master turned to the board with a sigh, and determined to let him alone. The next day Patsy came grinningly to school and copied his examples with unusual diligence. The master watched him as he did it, and studied the bearings of the case.

What should be done? Here was a frank, bright disposition, a boy

not of intellectual tastes truly, but of good sound mind, going to utter ruin through the dominion of one evil habit,—a habit, too, that the teacher knew was rooted and encouraged by the boy's home-life. One thing was certain, the first step to reformation was confession ; that must be compelled from the lad. But how to do it, was the query. The master was a humane man, and retained his boyish dislike to the rod. Besides, he had every reason to know that whipping was as Patsy's "native breath," his "vital air." However, the contest ought not to be avoided. The ordinary conversation on the subject of the unfortunate examples occurred. Patsy repeated his assertion, "I never tells no lies : I allus tell truuffs ;" but the teacher replied : "This cannot go on, you must tell me the truth." He then set Patsy by himself, took away his books, and went on with other recitations.

From time to time, during the day, the patient master would pause a moment and strive to extort a confession from his smiling criminal ; but it did not avail. The last boy had gone home, but still Patsy's sins lay lightly on his conscience. The master paced the room. Was the boy accountable ? Was he hopelessly hardened in this respect ? Had he done all that could be done ? There was the old expedient, the rod. Was he excused from trying that ? Might it be that the young sinner would discern the difference between a punishment given calmly as a cure, and the unaccountable beatings that were his daily experience ? He feared not. Still, he was pressed to do something. A physician must give what he can in a desperate case. He explained his decision to the culprit, and gave him time to consider. Unhappy Patsy looked at him curiously, and saw only a sad, firm face. He didn't understand it, and took the risks.

At first he bore the punishment without a murmur. The second time he still refused to part with his beloved falsehood. But at last overcome, not by physical, but by mental pain, after the master had paused in despair, Patsy threw up his hands, and gasped for breath, as though an evil spirit tore him, and cried out, "Please, sir, I did copy 'em ; I've allus done it." Gladly the rod was thrown into the corner. The master sat down and strove to compose the mind of the poor child. Then the fountains seemed to be opened. Long and faithfully the good man talked with him, and quietly, with broken sobs, he listened. That extorted confession broke the lock of his prison-door, and the boy walked forth into the daylight.

The force of the habit was broken forever. Patsy sometimes copied his examples, but always owned it afterward. Years after, the master knew him for an upright, honest man, and received from him the acknowledgment of the good he had received at the master's hands.

AN ENGLISH MASTER'S' VIEW OF SCHOOL PUNISHMENTS.

IN these days, it is difficult to know whether the subject of punishment should be approached with tears or laughter. There is something so comic in the reaction against the old-fashioned hang-draw-and-quarter-him process, which certainly was no laughing matter, that it is almost impossible to be grave. A school is pictured by some as a troop of little angels, eager to learn, more eager to imbibe goodness, all hanging on the lips of their still more angelic preceptors. If these celestials ever do need rebuke, shame is at once sufficient; and shame is produced by a gentle but piercing glance (all schoolmasters have eyes of forty-angel power): the victim retires to weep in silence, until he is ready to receive the forgiveness the thoughtful teacher yearns to give, and is only waiting till the fourth pocket-handkerchief is wetted through to give it.

But in sober seriousness, this very difficult question merits the closest attention, is full of practical puzzles, and cannot be disposed of lightly, whatever the conclusion arrived at may be.

As a fact, a great school from time to time receives all the evil of the worst homes, as well as all the good of the best. What is to be done with it? The boys are sent to be trained: the angelic theory obviously will not work. The easy way of getting rid of the difficulty is to cut the Gordian knot, and dismiss a boy directly, as soon as he gives real trouble. But if this is done, what becomes of the training? Clearly, the boys who are dismissed are not trained: neither are those who stay behind; for is this summary process likely to have a good effect, when they see every difficult case got rid of instead of conquered? Besides, boys know little of the future, and think less; if the present is unpleasant, they are almost always ready to leap in the dark—that is, bad boys are: and dismissal would soon lose its terrors for the bad in consequence. Moreover, boys are very jealous about justice, and there is a rude rough sense of what is just amongst them, that is seldom far wrong in its verdict. They will not consider this clearing process justice. No boy ought to be dismissed from a great school until he has given cause for judging that the school-power and influence will not reclaim him. The school is a little world of training, because good and evil are in their proper positions in it—good encouraged and predominant, evil discouraged and being conquered,—not because evil is rudely pitchforked out of it. This, if hastily done, destroys the true training power. There is no

¹ Edward Thring, M. A., Head-Master of Uppingham School.

doubt that the getting rid of a bad boy at once, without trying to train and reclaim him, saves masters a great deal of anxiety and a great deal of loss. If masters consulted their immediate worldly interests, they would get rid of a bad boy at the first opportunity. There is nothing so disastrous at the time as keeping a bad boy. As long as he is in the school unreclaimed, he is putting their best plans and hopes in jeopardy—bringing discredit on his house and class, and risking their reputations. The more so, if he is really bad, more frequently than not, when in the school and after he leaves it, both he and his are vilifying everything there with an animosity that only disappointed evil can supply. All this protracted danger, and occasional heavy loss, is got rid of at once by the dismissal system; for much cannot be said in that case. As a part of ordinary discipline, however, dismissal is out of the question, being no training for those who are dismissed, and giving a wrong idea to those who stay behind. It is not right in a master to escape from a difficulty in this way. And it is a grievous injury to the boy, if dismissal carries with it the disgrace it now does; a grievous wrong to schools, if an abuse of this power makes it cease to be terrible. There would still remain the question where the dismissed are to go to, and what Norfolk Island is to receive them; if the practice became common. How, then, is punishment to be inflicted?

The efficacy of all punishment depends, first, on the certainty of its being inflicted; secondly, on its being speedy. Severity is quite a minor point, and may be very much disregarded in considering the main question. The deterring effect of punishment is by no means proportionate to its cruelty.

Certainty of punishment is the first necessity. On this turns very much the goodness or badness of the government as regards its treatment of its criminals. An uncertain government can never be sufficiently severe: it will proceed from cruelty to cruelty, and nevertheless fail to terrify. Such is human nature; let there be the slightest chance of escape, and ninety-nine men out of a hundred will run the risk, however great, for a very incommensurate temptation. . . . On the other hand, certainty is conclusive. It acts as a complete extinguisher; whereas, great risks sometimes act as a stimulant. The difference between a good and a bad system of punishment, and a good and a bad master, consists in the vigilance with which wrong is detected and dealt with, the certainty of there being no escape for the wrong-doer. If the master is inattentive, no severity will prevent his boys from being idle and undisciplined; or if, being attentive, he is capricious, the result will be the same. *A good master does not require to be severe, because he is certain.*

But certainty is not all: quickness of punishment is equally necessary. We need not look far for an illustration: it is certain that all men die;

but yet, because the time of death is uncertain, and may be far off, this certainty has not the slightest effect on the lives of most men. They live entirely forgetful and regardless of it. Nay more, we often see during life, men wantonly incur a certainty of protracted wretchedness for a few short years or even hours of pleasure; the spendthrift, for instance: the short time close to them being more in their eyes than the long time only a little farther off. Neither has the certainty of punishment any effect, in too many cases, if the punishment is not close at hand also. Indeed, cruel and lasting punishment hardens instead of training or reforming its victims, without in any way benefiting society, or deterring others. It is essential that punishment should be certain, speedy, and sharp, not cruel or lasting; for, however cruel or lasting the punishment will be when it comes, if it does not come quickly, a very slight temptation will in many cases entirely overbear all the remoter consequences. There is no accounting for such insanity, but it is the fact. Where fear is the only restraining motive, a severe punishment a little way off is no match for a slight temptation close at hand. There are, then, two great necessities in all forms of punishment. Punishment must be certain. Punishment must be speedy. Severity without this is always useless, and with it almost always needless—a bungler's attempt to make up for want of power and influence.

These considerations affect schools exceedingly, and in many ways. In their simplest form they amount to this. No school can punish in a satisfactory manner, where faults are likely to be overlooked and unnoticed, and punishment is occasional and capricious in consequence.

Before proceeding further, it will be necessary to see clearly what the object of school-punishment is. Now, school-punishment is not vengeance. Its object is training: first of all, the training of the wrongdoer; next, the training of the other boys by his example. Both he and others are to be deterred from committing the offence again. Hence, if training is indeed the object, no *useless* punishment should be inflicted, that is, no punishment which shall not have something in it beneficial in the doing. But, on the other hand, no punishments can be inflicted which take up much of the master's time. This cannot be wasted on offenders to any great extent. Tried by the first of these laws, the common school-punishment of setting a boy to write out and translate his lessons signally fails. It is not beneficial, but the contrary. It is wearisome without exercising the mind; this is not good. It injures the handwriting; this is not good. It encourages slovenly habits; this is not good. It contains no corrective element, excepting that it is a disagreeable way of spending time. But time is very precious: a chief part of right training is the teaching a right use of time; wasting time, therefore, is not satisfactory in a good school. The one advantage it possesses,

and that is not unimportant, is this, it gives no trouble to masters, and does not take up their time.

Then comes the setting extra work ; but this does not reach far. In the first place, if a school is really properly provided with work, there is something inexpressibly absurd in setting a boy to do more work because he cannot or will not do the work he has already. This difficulty may, indeed, be partially got over by making the work not strictly additional, but by compelling a boy to spend more time on it. But this is only a partial remedy, for two reasons.

Beyond a certain point, and that a very early one, work cannot be compelled ; you can make a boy sit in his room, but you cannot make him work ; an idle or obstinate boy soon reaches this point : what is to be done, then ? It is, moreover, an absolute necessity of the gravest kind that punishments, as has been stated above, should not take up too much of a master's time. These two reasons soon bring extra work to a stand-still in bad cases. Learning by heart, perhaps, is the best form of work-punishment, as the task takes a long time to learn, and a short time to hear, is thoroughly useful, and cannot be evaded if done at all. But supposing it is not done, what then ? All work-punishments with an obstinate boy soon accumulate and clog the wheels till everything comes to a dead-lock ; the victim cannot do the accumulated heap, but if he does not do it, he is conqueror, and has baffled the master. Thus the range of work-punishments is narrow, and their power soon exhausted in difficult cases. Depriving a boy of part of his play-time is of some use, but health again prevents this being pressed far. For the same reason, depriving a boy of food, or putting him in solitary confinement, are both out of the question. Very heavy punishment, however, can be inflicted in a good school by taking away the privileges and liberties of the offenders. If severity by itself had any great power in punishment, this would be thoroughly effectual, but it has not, as has been shown above ; and this kind of punishment labors under the defect of not being speedy enough, but often delayed for some time, till holidays and so forth occur. It is also too protracted ; it keeps a boy too long in disgrace, and thus tends to harden. Still, this power of deprivation is very effectual, when wisely and sparingly used.

All kinds of public disgrace cut away the very root of good punishment, destroying self-respect, and making criminals, not mending them. Excepting in rare cases, as a deterrent measure for others, rather than corrective to those who suffer, public disgrace must not be thought of. Any one who studies the question will find that the range of good punishments is exceedingly limited. There are but few to choose from, and those few soon lose their efficacy by repetition ; and though effectual enough in dealing with heavy and exceptional cases, they soon break

down utterly under the daily wear and tear ; and cannot resist the friction of many and constant faults, which are simply inevitable in the complicated difficulties created by many untrained wills and intellects requiring training. It follows, then, from what has been said, that if the school-work is slack and loose, it is easy to punish : a boy who is virtually doing nothing, can be made to do something ; or if the beneficial effect of punishment is disregarded, tasks useless but vexatious can very easily be imposed. But if the school-work is sufficient and good, setting more work as a punishment is in theory absurd, and in practice very soon becomes impossible. In all these punishments, also, limited as their range is, there is an entire want of the great element of speed and decisive impression. Lasting torture is no substitute for a single sharp impression, even if it be thought wise to inflict lasting torture. For the above-mentioned reasons, flogging in some form or other is a necessity in a great school. It is certain, it is speedy, it is much feared, and yet is soon over.

The common argument that flogging is a degrading punishment to boys, will not bear investigation. . . . A school-punishment is degrading for one of two reasons. Either it is in itself degrading, or it is degrading on account of the circumstances attending it. If a flogging is in itself degrading, as being an outrage on the person, it is manifest that in any society which considers an outrage on the person degrading, there will be a total absence of blows, and every kind of personal chastisement. The idea of striking and of personal chastisement is of course utterly foreign to the boy-mind ! No blows are ever struck in boy-society ; boy never punishes boy by resorting to the ready fist ! Now all this may be, and is, in many cases, very wrong ; but this does not effect the question under discussion in the least : that question is not whether corporal punishment is wrong, but whether it is degrading in itself apart from the circumstances attending it. Whoever is prepared to say it is, may be a very wise man, but he has never been a boy. No boy ever feels the least mental infliction because he has been struck, or even kicked, by another boy, though the bodily infliction may be considerable, and the feelings with which the inflicter is regarded far from pleasant. The whole boy-life, from beginning to end, is so utterly regardless of inviolability of body, whether in play or in earnest, in fun or anger, that only theorists of mature age could entertain the notion of almost any form of bodily correction being in itself degrading. The circumstances which accompany or cause it, may certainly render it degrading. If received for gross offences, a flogging is obviously degrading ; but then it is the offence that degrades, not the punishment. This is a distinction often lost sight of, as if disgrace consisted in being found out and punished, and not rather in deserving punishment. It is disgraceful to be in

prison, if prison means conviction for theft ; but if prison means refusal to betray your country, it is not disgraceful. Whether flogging is disgraceful or not, therefore, obviously depends on the class of faults for which it is the penalty.

There is a general floating notion that flogging should be reserved for grave moral offences, to brand them with ignominy. Let us examine this.

It will readily be granted that every punishment of the young should be inflicted with a view to correct and train either the boy punished, his companions, or both. And still more readily will it be granted that no punishment should be needlessly severe ; for, if there was no other reason, it would be a waste of power : and waste of power signifies the employment of means you may want for a great thing in a little thing, so that when the great thing comes there is nothing left to do ; or employing the wrong means, as using a pen-knife to cut sticks, so that it will not fulfil its daily duty of pen-mending afterward.

Grave moral offences, lying, theft, and so forth, do not form part of the daily life. This is more important than it seems at first sight, for a daily recurring offence, by frequency, much increases the difficulty of punishing it, as punishment has to be provided not only with a view to a single occasional act, but to meet many acts and their growing power. Again, with the young, grave moral offences, when detected, are felt keenly and bitterly, sometimes with exceeding bitterness ; but in all cases conscience is roused to aid any right corrective, and there is great danger that wrong measures will deaden instead of improve boys fresh to sin. The object in view in all such cases is to assist conscience and the inborn shame, and to keep the impression alive as long as possible ; whereas, in ordinary punishment, the direct contrary is the case : the punishment impression should be over as soon as possible, or the effect will not be good. Protracted feeling, instead of sharpness, is wanted in dealing with sin. Unless it is a wrong to society, as well as a sin, which may therefore require public acknowledgment and atonement, what end is served by a sharp and disgraceful punishment in the case of a boy who has sinned ? A boy, unless hardened, ought not to have repentance made difficult, almost impossible, by public disgrace. If he is fit to remain in the school at all—for no school is bound to keep a rebel to its laws and spirit—conscience, and the bitterness of inward shame, make the task of punishment easy and utterly forbid public disgrace. A boy ought never to be allowed to think that masters can punish sin as they can intellectual or discipline-faults. Unless the society laws have been broken also, flogging a boy for a sin as a disgrace seems utterly subversive of the right object of punishment, namely, repentance ; and unnecessary, as quiet and more protracted punishments are better ; and a waste of power, as the first impression is strong enough without it. Ignominy cannot be

good for heart-offences in the young, in a sphere of training. On all accounts, then, flogging should not be the punishment of sins.

The faults which principally call for the rod are discipline-faults and wilful faults. For instance, when a boy persists in coming late to school ; when a boy is impertinent ; when a boy, by wilful idleness, accumulates book-punishments until the work comes to a dead-lock. These and similar cases require the rod ; the more so, as they are entirely in a boy's own power, and no one need incur the penalty unless he chooses. Thus, whether flogging is degrading or not, confining the punishment to voluntary and repeated offences, removes any reasonable objection to it, for it becomes a boy's own choice ; whilst offences of this sort require a sharp and speedy corrective, as the temptations are constant and sometimes so strong as to be painful to resist, and a little counter-pain acts as a very salutary check. Moreover, the daily recurrence of opportunity very soon makes offences of this kind, unless summarily disposed of, become impracticable to deal with. And though often venial in themselves, taken singly, they are utterly subversive of all order, rule, and training when repeated, and the school would break up like snow in a thaw unless some decisive check is found. That there is sensitiveness about being caned is certain, but it is bodily not mental pain that causes it, unless it is administered on wrong principles and in a capricious way. Abstract the pain, and boys would not be troubled by the imaginary disgrace. If the real disgrace of shameful idleness, or carelessness, or repeated disobedience is despised, the imaginary disgrace of a flogging will matter little. The theory always imagines a sensitive, innocent, unlucky boy flogged, but the fact presents an impudent, idle, or guilty boy who has despised warning, as being flogged. All the evil of homes comes into schools, as well as all the good. School-life is real, earnest work both for masters and boys, and not a matter of rose-water theories. At one time or another, every evil that boys can do will have to be faced by the masters ; and every temptation that boy-life is subject to, faced by the boys. This requires a strong government.

Moreover, one of the advantages of school is, that a boy finds himself there in a world of law and order, and constitutional rights and penalties, whilst still surrounded by friendly and loving influences ; instead of under a despotic will as at home, however sweetened by love, and indeed identical with it. He will have in after-life to live by law ; it is good that he should learn to do so early, and not expect to find everything free from discipline, or hardship even. How much bitterness would be saved if the vagaries of undisciplined nature, which few neighborhoods are without, had been checked in boyhood, when law could be applied to such childish ebullitions ! Spoilt children of mature years are like grit in the wheels, both in society and in public life.

For the reasons which have been mentioned, caning or flogging is an absolute necessity for working the ordinary discipline of a school well. But certain precautions should be taken against its being hasty or unjust. No caning or flogging ought to be inflicted at the moment the offence is committed ; or by the master under whom it is committed. The head-master should have the unenviable prerogative of inflicting it in all the more important cases. A lower master should be empowered to do so for petty offences in the lower classes. It should be inflicted at one stated time, and in the presence of all who choose to witness it. These are necessary safeguards against temper and haste. Even where there is no doubt about the offence, the question often is, not what a fault *deserves*, but *what is best for the culprit and the school*. And a little reflection will often decide, that what is best, is an entirely different thing from what is deserved. Be this as it may, whatever are the opinions on this subject, it cannot be disposed of in a hurry by a whiff or a sneer. The whole question of punishment is full of difficulty, and must meet with earnest treatment from every wise and practical man.

It would be easy to draw a very true and not very bright picture of boys and the difficulty of dealing with them, but it is our purpose to show a trainer's duty, rather than his trials. Nevertheless, it would be well to bear in mind that no words can exaggerate the spoiled nursery-temper, the selfishness, the indolence, the low morale, the carelessness of consequences, the transcendent folly of some boys, united with a conceit coextensive with their folly. The power of not learning, too, is quite a gift, which must be experienced to be credited ; the power by which boys, and not bad boys either, will daily be brought in contact with knowledge to no purpose. How, like the children's toy, the same rabbit is moved by the same wires, into the same mouth, down to the same stomach, of the same wooden bear, *ad infinitum*, always swallowed, never digested, a perpetual revolution of purposeless seeming feeding.

And in the matter of punishment, practice brings to light that the choice of wise and effective punishment is very limited ; whilst serious mental mistraining may easily be brought about unawares by bad punishments, which produce habits of slovenly work and haste, and distaste for writing and reading. At all events, exceeding waste of time is often the result, though the main object in life is to learn never to waste time. And all this takes place, because men are seeking to avoid a phantom, dressed up by popular opinion to be knocked down and abused.

Grave professional questions are sure to be full of practical difficulties, requiring experience and knowledge to estimate and deal with them. Indeed, most frequently, in actual life and practice, there is no actual good possible : a choice of the least evil is the only thing open for the wise man to make.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.**SECTION VI.—Hydrogen.**

HYDROGEN being the lightest known substance and highly combustible, the ordinary class-room experiments are designed to exhibit, besides the modes of preparing it, its levity and combustibility.

Hydrogen may be obtained either from water, which is composed of hydrogen and oxygen, or from hydrochloric acid, which is composed of hydrogen and chlorine.

Exp. 40. Obtain at the nearest tinsmith's or hardware-store some scraps of zinc. It may be cut with stout shears, or the thin sheets may be easily broken by folding them over and then hammering the fold. In one of these ways prepare your zinc so that it will go into a half-pint bottle. Prepare a cork that will tightly fit the bottle, with a glass tube just passing through it into the bottle. The upper end of the tube is in the best form when bent at right angles. If you want about a gallon of hydrogen, put half an ounce of zinc scraps into the bottle, and pour in water enough to half fill the bottle.

Add sulphuric acid gradually (otherwise the heat may break the bottle) until the effervescence is quite brisk. Put in the cork, let the gas escape through the tube for a minute, and then collect over water in the pneumatic trough as in the case of oxygen. Connection between the generating-bottle and the receiving-jar is easily established by glass and rubber tubing. Glass tubes are conveniently connected or coupled by short pieces of rubber tubing, cut off for the purpose.



A more complete hydrogen generator is represented in the diagram. The bottle in this case being supplied with a funnel or "thistle tube," which extends below the surface of the liquid, and through which the acid or water may be replenished at pleasure.

Exp. 41. To show that the decomposition of hydrochloric acid affords hydrogen, repeat the above experiment, using only the acid and zinc.

Either of these experiments may be performed in very small generators. A two-ounce vial may be made to afford hydrogen enough to exhibit the leading properties of the gas.

Exp. 42. To obtain hydrogen from water by using a metal without acid. Fill an ordinary tumbler nearly full of water. Fill also a five or six inch test-tube, and closing the mouth with the thumb, invert it and bring the mouth just below the surface of the water in the tumbler. The

tube should be now quite full of water, and the condition of the receiver over the pneumatic trough ready for the gas. Get a piece of sodium about as large as a small bean. Hold the test-tube with the left hand, so that it is slightly inclined, and with its mouth as near the top of the water as possible.



Take the sodium with the thumb and finger (which should be dry), and put it as quickly as possible in the mouth of the test-tube. The sodium will combine with the oxygen, setting hydrogen free, which will rapidly fill the tube. The hydrogen may be tested as in the next experiment.

Exp. 43. To exhibit the combustibility of hydrogen, as well as its lack of power to support combustion: fill a tall, narrow jar quite full of hydrogen; remove it from the pneumatic trough, keeping the mouth downward and covered with a piece of glass or pasteboard while moving the jar; then, having previously prepared a bit of candle or taper lighted and stuck on the end of a wire, hold the jar well up in the left hand, and with the right bring the taper to the mouth of the jar. A slight explosion follows, and the gas begins to burn at the mouth of the jar with a flame that is scarcely visible. Insert the taper well into the jar, and it becomes immediately extinguished. Bring it down to the mouth again, and it is promptly relighted.



This may be repeated two or three times with the same jar full of hydrogen.

The inside of the jar during this experiment becomes coated gradually with moisture,—the result of the recombination of oxygen and hydrogen.

Exp. 44. Repeat the preceding experiment up to the point of igniting the gas at the mouth of the jar. Having lighted it, turn the jar suddenly mouth upward, and show the rapid burning of the gas.

Exp. 45. Prepare a solution for making soap-bubbles, by dissolving some castile soap in warm water and adding a little glycerine. Put the hydrogen generator in brisk operation, and upon the delivery-tube fix a rubber tube; upon the end of this attach a small glass funnel, or, what is nearly as good, a common clay pipe.

Dip the pipe or funnel in the soap-solution. When it is thoroughly wet inside, bubbles will be formed promptly, which, after a little practice, may be shaken clear of the pipe without breaking, and will rise rapidly.

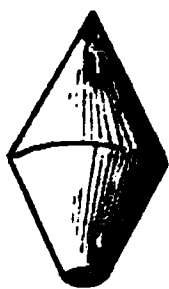
Exp. 46. Attach to the delivery-tube of the generator a rubber tube as before, and at the end of this a glass tube that has been drawn out to a fine point or tube, suitable for a burner. Fix this burner in a vertical position, and (if the generator has been working for a few minutes, so that there is no fear of the presence of air with the hydrogen), light it.

If the burner tube is of the right dimensions, a visible flame of an inch in height should be formed.

Hold over this flame a glass tube of about an inch in diameter. If it emits no sound, lower the tube until the flame and burner are inside the larger tube. Try in this experiment different sizes of tubes, both straight and tapering. The necks of broken chemical retorts make excellent singing-tubes. This experiment is equally well performed with illuminating gas; the burner employed should be the kind suggested above.

Exp. 47. To make an explosive mixture with hydrogen;—obtain a strong bottle, such as soda-water is sold in, and, after filling it about one-third full of water, invert in the pneumatic trough, so that when prepared to receive the hydrogen, it shall be at least two-thirds filled with air. Connect with the generator and fill the remainder with hydrogen, leaving a little water in the bottle. Cover the mouth of the bottle, remove it from the trough, shake the water about violently for a minute to mix the gasses;—uncover the mouth and apply a lighted taper or a match. If the bottle be thin, wrap a wet towel about it, before exploding the gases. The exact proportions for explosion are two measures of hydrogen to five of air.

Exp. 48. The “musquito-jar” affords a pleasing experiment. It is easily made by any tinsmith, and at a very small cost. It consists of two tin cones, each from three and a half to four inches high, soldered together, base to base. The one forming the top should have ten or a dozen pin-holes near the top. The bottom one should have the point cut away so as to leave an aperture of about an inch in diameter.



Support the mosquito-jar on a ring of the retort stand, and insert the tube or the generator in the opening of the jar.

When quite sure that the jar is well filled, light the gas at the small apertures at the top. The flame will be hardly visible, but after a few seconds a singing like that of mosquitoes will be heard, growing gradually louder, and ending with a loud explosion.

If the jar be not pretty well filled with hydrogen, the explosion may take place as soon as the light is applied.

Exp. 49. Experiments with a mixture of oxygen and hydrogen require a receiver furnished with a stop-cock outlet at the top, and a rubber gas-bag.

The proportions for an explosive mixture are two measures of hydrogen to one of oxygen. The safest method to show the experiment is to form soap-bubbles on the surface of water by gently forcing the mixed gases into a soapy solution, and applying a lighted taper. Keep the bag containing the mixture away from the light.

A gas-bag capable of holding a gallon is large enough for such experiments. The method of measuring the gases and transferring from the receiver to the bag, of course needs no description.

JUNE, 1869.

*THE ROMAN CATHOLICS AND THE PUBLIC SCHOOL
SYSTEM.*

IN its design, our system of public education is neither a charitable institution, nor an institution for the advancement of private or party purposes. It was adopted and is perpetuated purely as a matter of State policy. It rests mainly upon a question of dollars and cents ; namely, whether intelligent citizens are more profitable to the nation than ignorant ones : whether it is cheaper to support a system of instruction that may reach and elevate the masses, and so prepare them for industry, virtue, and self-government ; or, to sustain the additional jails, poor-houses, asylums, and means of administering justice, that would be necessary were the masses left to grow up in ignorance and become the victims of idleness and crime.

The question as to what course of instruction should be prescribed and followed, is one that was encountered at the very outset. It was obvious that, in a system designed for all special branches, such as instrumental music, painting, and the like, properly had no place ; as well as every branch of knowledge pursued solely with a view to preparation for some particular department of business or calling in life. Moreover, as it is not the province of the State to support religion, or the design of the school-system to teach religious doctrine, everything of a doctrinal and sectarian character also was found to be out of place here. At the same time, however, the inculcation of practical religious and moral duty could not but be expected ; for while the school-system was an acknowledged civil institution, the fact of its being an institution of a nominally Christian people could not be ignored or set aside. The instruction given, therefore, has been such as was designed to make intelligent citizens, to aid them to virtuous industry, and, in so doing, to meet the wants of all impartially

and in a becoming manner. Exceptional cases, we grant, may be pointed to, in which the public school has been used for other purposes. But, wherever this has been the case, it has been owing to the incapacity or mismanagement of those to whom for the hour its direction was intrusted, rather than chargeable upon the institution as such.

And yet there are those who talk of the system as an unjust one. Says the *Freeman's Journal* of this city, "The entire system of Public State School education is a *fraud*. In the line of *justice*, it values not the weight of a straw that ever so many Prelates of the Catholic Church were to acquiesce in the present *wicked* school-system, on condition that Catholic schools should have some approach to an equal share in the *per capita* distribution of the funds. Our Bishops have no right, through the State, any more than directly, to tax us for the secular instruction of our neighbors' children. As a call of *justice*, we deride it." This writer not only considers a *pro rata* distribution of the school-funds among the different denominations as unjust, but condemns the entire school-system. Others, however, in their condemnation are more temperate. And yet they speak of the system as "a *cherished injustice*." They talk of the State as having "the *satisfaction* of doing them *injustice*." They say they "should not be *denied justice*, when they ask no more;" and inculcate "*moderation* and *justice* in political majorities, under the law of retribution." (See Catholic World for April, and American Educational Monthly for January, 1869.) But where, we ask, is this supposed injustice on the part of the State? Is it in taxing the people according to their means for the support of a system designed for all, free for all, aiming at the general good, and made, as nearly as possible, unobjectionable to all? It is true, the childless is taxed as well as the father of a household, the man who does not avail himself of the system as well as the man who does. But there is no injustice in this. The State has aided the rich man to his wealth; it has secured to the poor man his home and the comforts he enjoys. It has thrown its strong arm and fostering care around every member of the commonwealth, and protected him in the enjoyment of his life and liberty, and in his pursuit of happiness. It has, therefore, a *right* to call upon its citizens,—those whom it has thus aided, befriended, and blest,—to co-operate with it in forwarding every legitimate object tending to strengthen, elevate, enlighten, and bless them and their posterity. And from those whom it has aided most, it certainly has a right

to expect the most. It is on this ground that we are taxed according to our means for the support of all governmental institutions,—our jails and poor-houses, for example, though we have not the remotest expectation that either we or any of our friends shall ever be lodged in any of them. On this principle it is, too, that the childless man, or the man who does not care to send to a public school, is taxed “for the secular instruction of his neighbors’ children.” There certainly is no injustice in this. It is his *duty* to help the State in this matter, since the State has so largely helped him by enabling him—at the sacrifice, it may be, of the lives of his neighbors’ children—to pursue his calling in the enjoyment of personal security, security of property, and freedom from the fears and distractions attendant upon a state of anarchy and lawlessness. If any one chooses not to avail himself of the privileges the government affords, as not suited to his wants or not compatible with his views, that surely is not the fault of the government! If the State were to *compel* him to accept of its provisions, and, willing or unwilling, send his children to its schools, there might be some show of reason in the charge of injustice.

But our Catholic citizens—some of them, at least—tell us, “We cannot send to these schools. They are of an irreligious character. They are godless; and we cannot consent that our children shall receive secular education without religious training.” It is not urged that the system is unjust in offering proportionally less instruction to Catholic children than to others; or in requiring them to take up with inferior advantages, poorer accommodations, or a lower grade of teachers. Not at all. The charge is, that the public schools are infidel schools, and that the government is unjust in taxing Catholics to promote infidelity; and the consequence is, Catholics say, they cannot send to such schools.

This is certainly a hard accusation; and it is one which Catholics must prove, before they can expect the public to acquiesce in it. Is not the Bible read? Yes; but, says the writer of “The Catholic View,” “To read the Bible without note or comment to *young children*, is to abandon them to *dangerous speculation*, or to leave them dry and barren of *all* Christian knowledge.” In the first place, is this so? Are “young children” really the ones to indulge in “dangerous speculations?” And is all scriptural truth so shrouded in symbols and mystery that a child cannot understand it? Does it require note or comment to be able to gather the meaning of the decalogue, the histories, the Saviour’s teachings, the

plain precepts of the Gospel? Either the writer has a very confused idea of the mental workings and abilities of "young children," or else he is sadly pushed for an argument to sustain his case. But, in the second place, to whom are we indebted for the decried and "dangerous" requirement that the Bible shall be read in our schools without note or comment? No one that knows the history of our public schools, needs to be told that the law and the practice which Catholics profess to object to, were legislated into being mainly *for their accommodation*. And now they turn around and tell us that these schools are godless and nurseries of infidelity!

"But we cannot consent," Catholics say, "that our children shall receive secular education without religious training." We do not ask them to do it. All we ask is that, like other denominations, they do their own religious training without looking to the State to help them do it; that they cease to harp upon the injustice of the government in not doing for them what it does not do for others, and what others have the good sense not to ask it to do for them. If there is any portion of our population who might be considered as having just grounds for religious scruples in this matter, it is our Jewish population. The differences between them and Protestants, as every one knows, are far greater than those between Catholics and other Christians. How is it with them? They are among our heaviest tax-payers: yet, so far as the city of New York and its vicinity are concerned, they not only acquiesce without a murmur in our public school system, but to a very great extent, if not generally, send to the public schools. Here are people who are farther removed from Protestants than the Catholics are; and yet they send to our "Protestant" schools from choice, and at the same time preserve all their distinctive religious characteristics. Why cannot Catholics do the same?

Now how is it with Protestants? Says the *Catholic World* for April, "Not only is the community divided into Protestants, Catholics, and a large body of citizens professing no faith at all, but the *Protestant community itself* is subdivided into innumerable *conflicting* sects. In defiance of any system of public education, those various religious organizations will *always* be *widely* separated *from each other* and from the Catholic Church, on questions of doctrinal belief." And yet these conflicting sects, as such, have no conscientious scruples about sending their children to the public schools, on the score of their being "nurseries of

infidelity." Why should they not, as well as Catholics? The gulf between Presbyterians and Unitarians, for example, is surely not more likely to "be bridged over" than that between Catholics and Episcopalians. Why should it not interfere with a Presbyterian's conscience to send his children to a "godless" public school with the children of Unitarian families, just as truly as it should "interfere with a Catholic conscience" to be found in the same or a similar school? Not because the Presbyterian is less conscientious than the Catholic. It is rather because the Presbyterian has no fears for his creed. He has no fears that his children, by associating with the children of Unitarian parents, will fall in love with Unitarianism, and be led to despise the faith of their parents. Not so, however, with the Catholic. He dreads the consequences of having his children associate with those of other denominations; and he withdraws his children, and keeps them by themselves, where they may be continually surrounded by the atmosphere of Romanism. This withdrawal, however, though professedly on account of the godlessness of the school and not of the play-ground, is virtually an acknowledgment that the religious training of his own household is too weak to be trusted abroad.

And this brings us to say that the place for religious instruction, as such, that is, for catechetical and doctrinal teaching and for Biblical exposition, is not the school-room at all. Whilst the mind and heart of the child should not be exposed to contamination by the instruction or discipline of the school, but every previously learned lesson of Christian morality should rather be confirmed by the example and influence of the teacher, the home is the place above all others where religious doctrine and precept should be inculcated and learned. If Catholics are but true to their trusts, and see that their children are not exposed to contaminating influences *at home*, but that there at least they enjoy the desired "religious atmosphere," and that, in addition to this, they are duly brought under special religious instruction in the Sunday-school and the Sanctuary, they need have no fears that their little ones will "perish in the dreary and soul-destroying wastes of deism," the public schools. As the late Clerk of the Board of Education, in his History of Public Education in the City of New York, has well said, "Each denomination is coming more and more distinctly to realize that the true protection of the young from adverse proselyting influences is to be found, not in with-

drawing them from the common ground of the future citizens, the Common School, but in fortifying their minds and hearts through the teaching of parents and the systematic weekly training of special religious instructors."

But not only is the school-room not the place for teaching religious doctrines; the State, with us, has no mission, no right to contribute directly or indirectly of its funds for this end. Ours is a *civil* government only, and has a right to tax the people for *civil* purposes only. It is not a union of Church and State. It is, therefore, not a country in which religious institutions may be supported by government funds. If the State, with us, undertook, as European States undertake, to sustain churches and religious institutions generally, and should then withhold aid and support from parochial schools or any other denominational institutions, it would unquestionably pursue a course of injustice. But this our government does not undertake to do. Hence, all references to the practice of European nations in sustaining denominational schools, are to no purpose. As arguments in favor of a distribution of our public school funds for carrying on denominational schools, they are valueless. There is no parallel between the two cases. The State-systems of Europe, in supporting religious institutions, are but acting in accordance with the fundamental principles on which they are based. With us, however, for the State to assume to provide for the religious instruction of any portion of the people, would be contrary to the fundamental principles of our governmental system; it would be a usurpation of power striking at the very foundation of our civil and religious rights and of our existence as a nation. In answer, then, to the inquiry, "Why Catholics cannot be permitted in this country to organize separate schools, as in the countries of Europe?" we say, They can; but as Catholic Schools, that is, as religious institutions, they have no claim whatever upon the government for pecuniary support, and the State has no right to give them such support.

THE RHODE ISLAND SCHOOLMASTER is dead, after a lingering decline under the usual complaint of teachers' magazines—the professional indifference of teachers. "It was found that those gentlemen who were competent to fill the editorial chair, were already too much burdened to assume its duties—especially as such labors must be given gratuitously."

EDUCATIONAL INTELLIGENCE.

THE next annual meeting of the NEW YORK STATE TEACHERS' ASSOCIATION will be held at Ithaca, on Tuesday, Wednesday, and Thursday, July 27th, 28th, 29th, 1869: Ithaca being chosen as the place of meeting on the invitation of the Trustees of Cornell University.

Arrangements are in progress to make the meeting one of more than usual interest.

VIRGINIA.—The Rev. A. J. Leavenworth, clergyman and teacher, died at Petersburg, Virginia, February 12, aged 66. Mr. Leavenworth graduated at Amherst College in 1825; studied Theology at Andover; first settled in the Presbyterian ministry at Bristol, 1829,—at Charlotte, North Carolina (1831–38), where he became principal of the “Young Ladies’ Seminary” of that place; removed to Warrenton, Va. (1838–40), and to Petersburg, Va. (1840–69), where he established the “Leavenworth Academic and Collegiate Seminary” for the education of young ladies, an institution widely and favorably known throughout the eastern States.

The Educational Association of Virginia, of which he was the secretary, was established in large measure through his zeal and energy. He was an accomplished scholar, a faithful pastor, and, as a successful instructor, has left behind him few equals.

LOUISIANA.—Much complaint has been made against the new school law for unwarrantably interfering with city schools and private institutions of learning, and for forcibly “mixing” races and colors in the public schools. According to the *Picayune*, these complaints are not well founded. The new law, says that paper, does not undertake to manage or control schools established by municipal or parochial authorities and supported by their funds, still less such as are under private management, whether corporate or incorporate. It simply applies to “the common schools of the State, and such high schools and normal schools as may be established or maintained by the State;” and the control given the State Board of Education over funds raised by State taxation for the benefit of public schools, will not extend to funds otherwise contributed. As a consequence, the *Picayune* holds, the schools of New Orleans do not necessarily fall under the control of the State Board. According to the report of State Superintendent Conway, the amount received by New Orleans from the State for public instruction is \$55,000 annually, while the city raises for the same purpose \$350,000. The State Board can withdraw its contribution from the custody of the City Directory, and establish its own schools; or it may permit the State apportionment to be administered by the directory, on condition that the State law be complied with in its disbursement. As the school-tax of the State is to be doubled, the apportionment to New Orleans will hereafter be \$110,000, which, if prudently managed, the *Picayune* thinks, will be sufficient to provide schools for all the colored population, and such whites as may choose to send to them; so that there will exist, side by side, two sets of schools—namely, State schools established as the constitution directs, and which may be “mixed,” if white people choose to send to them; and

the already established city schools, which will flourish more and more from the rivalry of the two systems as to which will produce the better fruit. Opposing this view, *The Advocate* (the secular department of which is edited by Senator Campbell, the author of the bill in question), claims that if any city government should be so foolish as to attempt to establish a system of public schools independent of the State schools, thus doubly taxing its citizens, the system would soon lead to such onerous taxation as would speedily compel its abandonment. *The Advocate* believes further, that not only would the General Assembly interfere to protect the people from being taxed to support two different sets of public schools, but that even should the city have the right to maintain independent public schools, they would still be subject to the provision of the State constitution requiring them to be open to all children, regardless of color. It therefore believes that there will be only one set of public schools supported by taxation, either the city or the country, and that these will be under the control of the State Board and the State Superintendent of Public Education. Inasmuch as others, who took part with Senator Campbell in the enactment of the law, differ with him in regard to its meaning in this matter, it is probable that the matter will have to be settled by the courts.

ENGLAND.—The friends of modern culture have reason to rejoice at the recognition of their claims by one of the half-dozen great public schools. A modern department is about to be established at Harrow School; and other schools cannot long refrain from following the example. The character and object of the new department are described as follows, in a circular lately published by Dr. Butler, the Head-master.

“It may interest you to know that we propose, in September next, to establish at Harrow a ‘modern side,’ for the benefit of boys for whom, from various causes, an advanced classical training seems undesirable. The principal subjects of instruction on the ‘modern side’ will be mathematics, French, German, Latin, History, English literature, and physical science. The requirements of boys not intended for the Universities, will be specially kept in view, including those who are candidates for Woolwich or the Indian Civil Service. It is hoped that this provision may obviate the supposed necessity for removing boys to a private tutor’s precisely at an age when the influences of public school life are most powerful and most salutary. Except for purposes of instruction, there will be no distinction between boys on the modern side, and boys on the classical side. No boy will for the present be admitted to the modern side unless he has been in the school for at least a year, and has hitherto shown diligence and made fair progress.”

FINLAND.—Describing, in the *New York Observer*, a visit to Helsingfors, Dr. Prime says: In our ignorance we had associated Finlanders with the Laps and the Esquimaux, and had never thought of letters and science and art in connection with this race. Among the pleasures of a visit to Finland we had not reckoned an introduction to a venerable university, endowed, sustained, and flourishing on a par with those of Germany. In fact, very few of the German universities have accommodations and advantages equal to this at Helsingfors. It would be considered first class in England or France, and there is nothing comparable to it in the

United States. It has a magnificent stone edifice of architectural proportions and finish that make the building a perpetual lecture on the beautiful and sublime in art, and within is the most complete system of rooms for every department of knowledge here pursued—for museums, laboratories, lectures, recitations. The professors were in session in the great audience-room as we entered it; the place was adorned with a full-length portrait of the Emperor Alexander I., who is styled, in the Latin inscription, “the Father of his Country and the University.” The prophecy is added that art will preserve his features, and his fame will fill the whole earth. The professors seemed an earnest set of men, mostly young, all fine looking and well dressed. I took them to be happy and successful in their calling, and I wished much that I understood their language, so as to enter into the sympathies of a set of scholars giving their lives to the pursuits of science in Finland.

The University has five separate departments—Law, Medicine, Theology, etc.—with thirty-one professors, and it will surprise you, perhaps, to learn that it is older than any university in Russia. It was founded in 1630 by the Empress Christina, eleven years before the art of printing was introduced into Finland. Its charter was signed by Axel Oxenstiern, a famous name in his country’s annals. The library contains 200,000 volumes, in all languages and in every realm of human learning. It is admirably arranged in a series of beautiful rooms, in niches and galleries, having an air of repose and seclusion inviting to quiet study, such as Ptolemy anticipated when he put over the Alexandrian doors the fitting inscription, “The food of the soul.”

And the halls, floors, walls, and the whole interior, are kept with a scrupulous neatness unknown in any institution of learning claiming the dignity of a college, or university, that my feet ever entered in the most enlightened, civilized, and beloved land in the world. Yet there is little in the way of literature in the Finnish language, which is spoken only by the peasants, the Swedish being the language of law and social life among the other classes. Some rich treasures of popular poetry have been discovered floating about in the memories of the people, and these have been gathered as curious specimens of an unlettered, but imaginative race. *Kalewala*, an epic poem, was first printed in 1835, and an earnest effort has been made to rouse young Finland to seek laurels in the fields of song. Two of the professors deliver lectures in Finnish. Schiller and Shakespeare have been done into the native tongue of the Finns. And the imperial decree has gone forth that after 1883 the Finnish language shall be the official tongue of the country. If Russia would be as kind and considerate of the feelings of Poland, she would conciliate her southern subjects as readily as she has her northern.

ACCORDING to a recent Educational Map of Europe, the European States stand in the following order in respect to elementary instruction: Saxony, Switzerland, Small States of North Germany, Denmark, Prussia, Sweden, Baden, Wurtemberg, Holland, Norway, Bavaria, France, Belgium, England, Italy, Austria, Greece, Papal States, Spain, Portugal, Waldo-Wallacia, Russia, Turkey.

CURRENT PUBLICATIONS.

THE record of scientific progress for the past year is unusually interesting.

Besides the mechanical inventions, of which one expects about the same number and variety year by year, the annual¹ records in its list of scientific discoveries, a good year's work by the philosophers and explorers. Among the items of special interest to instructors in physical science are those relating to the eclipse of August last—experiments on velocity of different musical tones—planetary and stellar examinations by the spectroscope—and the more recently accumulated evidences of pre-historic man. A steel-plate portrait of Dr. Dana, the eminent mineralogist, faces the title-page.

THE Guide to the study of Insects² amply fulfills the promise of its early numbers. Six parts have thus far been issued, and the illustrations number more than three hundred. The first hundred pages were devoted to the physiology of insects and the methods of preserving specimens. This includes Part I. and a portion of Part II., as previously noticed. A detailed description of the orders begins with the Hymenoptera, and extends with an abundance of illustrations through No. III. and a portion of No. IV. The subsequent portions to No. VI. will prove specially interesting to young entomologists, being devoted to the attractive order of Lepidoptera (moths and butterflies). A fine steel-plate engraving embellishes the last number. The Guide affords the best stimulus and aid to the study of entomology ever issued in this country.

THE "Brawnville Papers"³ describe in a lively, muscular style the trials and triumphs of a village athletic club: how it was founded, the opposition it met with, and how, through the generous and enlightened efforts of Judge Fairplay, Parson Bland, the schoolmaster and other friends of physical culture, the club not only succeeded in overcoming the opposition of the conservatives led by Dr. Drugger and Deacon Snip, but in transforming a plodding New England community into a wide-awake mentally and physically cultivated society. The leading characters are well drawn, and the story, on the whole, well told.

PROFESSOR Eggleston's little table-book⁴ appears to be the most complete and best arranged compilation of the sort that we have seen. The Index, six pages in length, is a specially valuable feature.

¹ Annual of Scientific Discovery, or Year Book of Facts in Science and Art for 1869, edited by Samuel Kneeland, A. M., M. D. Boston: Gould & Lincoln.

² A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops. For the use of Colleges, Farm schools, and Agriculturists. By A. S. Packard, Jr., M. D. Salem: Press of the Essex Institute.

³ The Brawnville Papers: being Memorials of the Brawnville Athletic Club. By Moses Coit Tyler. Boston: Fields, Osgood & Co. 12mo.; \$1.50.

⁴ Tables of Weights, Measures, Coins, etc., arranged by T. Eggleston, Professor of Mineralogy and Metallurgy, School of Mines, Columbia College. New York, Stephen Angell. Paper, pp. 36.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

JULY, 1869.

OUT OF SCHOOL IN THE MIDDLE AGES.¹

I.

THROUGH the whole of the five or six centuries known as the Middle Ages, every high-road in Europe was alive with youths hastening to the schools. They crossed and recrossed mountain, forest, and narrow sea by *tens of thousands*; and they crowded the several seats of learning—Oxford, Paris, Salamanca, Bologna, and Prague, as thick as bees. Indeed, it is said that they generally outnumbered all the other residents of these cities—30,000 being actually set down as attending the schools of Oxford; 50,000, 70,000, and even 100,000, those of Paris; while a notion of the numbers who selected Prague as *alma mater* may be formed from the tale told of the multitude that accompanied the celebrated professor John Hoffman, when expelled from that university by the influence of Huss—a host which several writers estimate as high as 40,000. Nor were these the only universities in existence. There were others of all but equal note at Orleans, Montpellier, Padua, and Leipsic; and twenty-four more, some of them of great celebrity, were erected between 1403 and 1499. Humbler establishments, too, existed in plenty. Every cathedral had its school, and so had every monastery. Several of these were academies of large pretence, which exacted a certain amount of preparatory knowledge from those who sought admission—Pope Adrian IV., for instance, having been rejected in his boyhood by the monks who conducted the school of St. Alban's, because his acquirements did not come up to their standard. The parson of the parish, also, seldom objected to increase his generally scanty stipend by playing the part of pedagogue. And, finally, many a wandering scholar was glad to exchange instruction against board and lodging in hamlet and homestead

¹ From *The Cornhill Magazine*, London.

which lay beyond the reach of regular institutions. All this shows that the numbers under education during the Middle Ages were much larger than we are disposed to think : they were larger, indeed, than in any age from the Reformation down to thirty years ago ; for, with so much good, that great event wrought one large evil, sweeping away from many quarters the educational organization that had been growing up for centuries, without substituting anything in its stead.

When conquest had ceased, and society began to reorganize, and when, therefore, learning began to be appreciated, any teacher who put himself forward was sure to obtain a following that speedily multiplied to thousands, if he happened to be a man of ability. Of course, in such a case he would find it necessary to fix his school in some place adapted to supply the material wants of his pupils. And as there were few situations which those periodical invaders, dearth and plague, did not render untenable for any length of time, the early history of learning is full of instances of teachers and their disciples migrating from place to place in search of food and lodging. Nor were these the only considerations that dictated the choice of locality. The fame of a good teacher was sure to spread, even into other countries ; it was, therefore, indispensable that he should settle in some well-known and easily accessible spot : and thus in a short time we find the principal cities of the West fairly stocked with teachers. Rulers and citizens, too, soon found their advantage in these schools, and did their utmost to perpetuate them. With that view they extended peculiar privileges, at first to the preceptors, but eventually to the whole body of the students, and, in some cases, to their servants. And these privileges grew and flourished, until, by the thirteenth century, we find them including exemption from taxes of all kinds, from arrest, seizure of goods, and the jurisdiction of the ordinary tribunals even in cases of atrocious crime. Nobody was allowed to promulgate a sentence of excommunication or interdict against a university without special license from the Pope ; and the Emperor Frederick I., whose example was generally followed, published a rescript (1158) which directed that students should pass freely throughout the empire, and forbade their arrest for debt or crime on their way to or from school. Even so late as the reign of Charles V. these privileges were still considered of sufficient moment to merit the attention of the diplomatist, and obtain a place in important treaties. We find a portion of the 33d article of the Treaty of Madrid, concluded 1526, devoted to the claims urged by the University of Burgos for “*les maux et dommages excessifs qu'ils ont soustenus et soufferts durant ces guerres, contre la forme des privilèges qu'ils disent avoir des prédécesseurs dudit Roy Chrestien ;*” and the 42d article of the same treaty stipulates that to “*the lord of Chaux, Messire Charles de Poupet, chamberlain and first butler to the Emperor, should be restored*

the ransom which he had been compelled to pay for his children, who being scholars of the University of Paris, and therefore privileged and assured by law that they could not be made prisoners, were not fair prey (*de juste prise*) ; that the said ransom should be restored by those who had exacted it, or by their heirs ; and that in this matter the very Christian King was to cause ample and speedy justice to be done, *according to the privileges of the said University of Paris.*" Nor were these privileges withdrawn until long after the Reformation. Those claimed by the University of Paris remained in full force until 1592. Then, for the first time, the Provost of that city dispensed with the oath which had been exacted at their installation from every one of his predecessors for three centuries and a half, to observe himself, and protect with all his power, the immunities of the learned brotherhood. And those privileges were even more widely extended among ourselves. For ages they obstructed the course of English justice under the name of Benefit of Clergy :—an institution which enabled every one who could read to perpetrate at least one capital crime without risk during the course of his life ; and which, among other nice results, tempted the British nobility of the "first year of Edward VI." to satirize themselves through all time by securing impunity to their order without the drudgery of wading through hornbook and primer, for such gentlemanlike offences as highway robbery, horse-stealing, house-breaking, and robbing churches.

Of course the heads of the various universities would have found much difficulty in maintaining order among these multitudes, even under circumstances exceptionally favorable ; but circumstances during the Middle Ages were precisely the reverse. For a long time the universities were little more than guilds of teachers, organized chiefly with a view to shut out incompetent interlopers from a very lucrative profession. Their degrees were just so many certificates showing that those who possessed them were free of the craft. And their rectors and other officials had little power, except as centres of resistance to assaults on their overgrown privileges. The republic of letters, indeed, as represented by the university, was a very loose federation. The various classes seldom worked well together ; while beyond the precincts of the lecture-hall, every one—tutor and pupil—did pretty much as he felt inclined. Nor could it well have been otherwise. There were few buildings specially adapted to collegiate purposes until toward the close of the era, and these few were designed for the use of poor scholars. The classes, therefore, were conducted, for the most part, in rooms hired by the professors at their own risk ; a custom which could not tend greatly to strengthen central authority. These rooms, also, were too often situated in the very worst quarters. Writing on the subject in the thirteenth century, Cardinal de Vitry remarks—and these remarks had better remain in the "decent ob-

scurity" of the language he uses—that "in una autem et eadem domo scholæ erant superius, prostibula inferius. In parte superiori magistri legebant ; in inferiori meretrices officia turpitudinis exercebant. Ex una parte meretrices inter se et cum cenonibus (lenonibus) litigabant ; ex alia parte disputantes et contentiose agentes clerici proclamabant." Nor was the private life of the student much adapted to correct the impressions thus received. It was the custom for several students to club together and engage what was called a hall. They then elected a head or regent—usually a student more advanced than themselves—and took it in turn to provide the food and prepare the meals. Thus they lived, and those who were that way given read under the direction of the regent. At one time there were as many as 300 of these halls at Oxford. And Chaucer gives us a glimpse of their economy and of the character of the inmates in the tale of the *Miller of Trompington*. Such a system was evidently not very conducive to morality. Young fellows thus given up to their own devices, and hedged round with immunities, were not likely to prove models of behavior. And there were several things besides to render them rough, riotous, and profligate. In the first place, a large fraction were scholars indeed in name, but vagabonds in reality, who, as Wood, Fuller, and others testify, found the academic gown a very convenient covering for their misdeeds, and who managed to exempt themselves from all jurisdiction by pleading scholarship in the face of the civil magistrate, and denying it before the clerical one ; and Wood estimates these martinets, as they were called, at fully a third of those who frequented the University of Oxford. In the second place, the example of the pastor and master was, in the great majority of cases, far from edifying ; indeed, from the days of Abelard down to those of Ravailac, it must be confessed that the pedagogue of the Middle Ages, whether he dogmatized in a palace, or held forth in the merest hedge-school, bore a very indifferent reputation. Politian, the boast of Florence and the tutor of the princely Medici, was the most learned man of his time, and, if gossips do not err, probably the most abandoned. And his deeply-learned and roystering, and, therefore, very worthy successor in the school of Florence, Crinitus, had his skull cracked with a bottle by one of his pupils while conducting an orgy after the manner of Trimalcion. Another of these learned and much esteemed professors, Bartholomew Socinus, was accustomed to supplement his scholastic exertions by practical lessons in the noble art of gaming—to which he was as devoted as Marshal Blucher himself. And a third, Eobanus, who had a peculiar capacity for swilling that would have done him honor in the eyes of Porson, once challenged a notorious bibber to a drinking tourney, and laid his antagonist dead on the spot. Indeed, so noted were preceptors for their ability in this way that, to have pushed the bottle theologically, was the mediæval equivalent for that

elegant expression, "drunk as a fiddler." Nor are we libelling the profession by any means. Indeed, were we to take its members at their word ; were we to rely implicitly on such letters as passed between Poggio Bracciolino and his bitter enemy, Philelphus, or between Abelard and his comical correspondent, Foulkes, or on such precious scraps of autobiography as Cardan has left us ; were we to paint these professors as they paint one another and themselves, we should be compelled to set them down, one and all, as arrant scamps. Nor would the alternative be much to their credit. For in proportion as we acquit them of depravity, we must condemn them of sinning against truth. And if anybody feels inclined to stand up for the general moral worth of the mediæval instructors, we beg to present him with the dilemma.

Gown and town never harmonized particularly well together in the olden time. The turbulence and the privileges of the students on the one side, and the exactions and impositions of the citizens in matters of food and rent on the other, were always fruitful of dissension. Indeed, nothing but sheer gain rendered the presence of a large school tolerable to the civilian ; and nothing but absolute necessity reconciled the student to the presence of the trader. And whenever opportunity served, both the one and the other exerted himself to pay off old scores by aid of pike and quarter-staff. In 1209, for instance, an Oxford scholar having accidentally killed a woman belonging to the town, while engaged with some of his fellows in athletic sports, the townspeople rose in a body, attacked the hall to which the offender belonged, and not being able to capture him, seized three of his companions and hanged them at once. Redress being refused—in some degree because it happened to be rather exorbitant as put in the demand of the university—the whole of the students left the place, and retired, some to Reading, others to Cambridge. At their solicitations the Pope laid an interdict on the town, and denounced the pains and penalties of excommunication against any teacher who should presume to pursue his calling therein before the citizens had made ample reparation. And that they found themselves compelled to do much sooner than they had calculated on. They might possibly have borne the privation of religious rites a little longer, though perhaps not quite so stoically as the wicked people of Frankfort, who impudently declared, after an interdict of twenty-nine years' duration, that neither man nor matron among them felt a whit the worse. But, conjoined with loss of trade, the interdict was not to be contended with by the men of Oxford. Accordingly, the students speedily found themselves back in their old haunts, with their privileges greatly amplified. But even this affair was as nothing to that which occurred at Cambridge in 1260. There, it appears, that the students were divided into two hostile factions, called "north" and "south ;" thus reproducing in the colleges the cur-

rent animosity of the period ; for then and long after, as many a furious battle attested, there was little love lost between the "north countrie" and the "south." A representative of each of these parties happening to quarrel, came to blows, and their fellows of both sides joining in, a tremendous riot ensued. Utterly unable to make head against it of themselves, the Cambridge doctors called upon the citizens for aid. But the latter only interfered to become principals in the fray, and for many days Cambridge presented the aspect of a city taken by storm—fire, robbery, and violence revelling on all sides. Nor was order restored until a body of troops marched in. Having by this means quelled the disturbance, the authorities proceeded to distribute a very one-sided sort of justice ; for while the students sat secure under cover of their privileges, the citizens, having no such shelter, suffered severely, no less than sixteen of them being consigned to the gallows. Wat Tyler's year also was signalized by unusual troubles at Cambridge. The citizens attacking the university, forced the masters to sign a renunciation of their immunities ; and then burnt the college archives and broke the seals in the marketplace. But the gownsmen had ample revenge, for the townsmen had to contribute liberally to the numerous scaffolds that were raised at the close of that rebellion. These, however, were only a few of the more prominent broils. Minor matter of the sort was of ceaseless recurrence, being rendered particularly rife at Cambridge by the numerous tournaments which were held in that vicinity. Nor was the Continent any better off. There, as well as in England, dissension and riot resulted wherever town came in contact with gown. A memorable instance of this occurred at Orleans in 1236, where the citizens set upon the clerks, slew some, and flung a few more into the Loire ; and in return were assailed by the noble relatives of some of their victims and massacred by wholesale. Scenes not very dissimilar were now and then enacted at the Italian universities, particularly that of Bologna ; where the professors, at one period, not only forbade the students to intermarry with the citizens, but actually attempted to render degrees a matter of entail in their own families.

TECHNICAL EDUCATION IN EUROPE.

II.—NORWAY.

BUT little appears to have been done in Norway for the promotion of technical instruction. The only industrial schools reported are an elementary mining-school established in 1866, in connection with the silver mines of Kongsberg, and a school for mechanical engineers at Carl Johan's Værn, founded some fifteen years ago.

The object aimed at by the school at Kongsberg is to impart instruction to promising young miners in special branches pertaining to their calling. The expenses of the school are defrayed from the resources of the silver works. The instruction is free; the pupils providing themselves with books and writing and drawing materials. The conditions of admission are simply that the candidate be under eighteen years of age; a workman at the mines of Kongsberg or some other similar mines; able to read and write and acquainted with the first four rules of arithmetic. It is further required that the pupils continue to work in the mines during their course of instruction. As the institution had been in operation only six months when the directors made the report from which our information is derived, the course of study had not been fully determined. It was assumed, however, that it would last from two to three years, with two days' instruction each week. The pupils that had been admitted—eight in number—had been elected on the recommendation of their superiors in the mines. The instruction given is in the elements of mineralogy, geology, mechanics, and physics; the elements of arithmetic, geometry, trigonometry, and stereometry; geometrical drawing, land and mining surveying, with opportunities for the practical exercise of their acquirements. The pupils do not obtain any special privileges in consequence of their connection with the school; but will of course find it more easy to obtain employment as overseers or foremen, than other workmen. The remuneration of the teachers is regulated by the number of hours they are employed. The teachers have all passed the mining examination at the University, and have received their appointment on the ground of their being known to possess the requisite knowledge.

The engineering school at Carl Johan's Værn is connected with the naval engineering workshops. It imparts theoretical instruction only; but pupils who have passed through the course of study of the school may obtain practical experience in the workshops. The school is chiefly attended by young men intending to become mechanical engineers; but persons of mature age, already workmen, are also admitted. Up to September, 1867, the average number of pupils in attendance had been from twenty to twenty-five; but during the two years preceding that date, applications for admission had increased so that an enlargement of the institution was contemplated. The school is supported by the State. Instruction is free. The qualifications for admission are ability to read and write, and a knowledge of the elements of arithmetic as far as the Rule of Three. The term of theoretical instruction is from one to two years. The practical instruction in the workshops lasts from four to five years. The subjects of theoretical instruction are: elementary mathematics, extended, in the case of specially gifted pupils, to the higher branches; theoretical mechanics; physics and inorganic chemistry; Eng-

lish and drawing. Instruction is imparted mainly by means of exercises in calculation and construction under superintendence of the masters. Some few lectures are also delivered, admission to which is free to all the workmen in the naval establishment. Connection with the school secures no other privilege than that of admission to the naval workshops for the acquirement of practical knowledge. Engineers in the Royal Navy must attend the school in order to rise to the higher grades of the service. The teachers are nominated by the navy department. Those hitherto appointed have been officers of approved qualifications connected with the royal docks. Men who have passed through the course of instruction in the school and workshops are sought for in private industrial establishments, as draughtsmen, engineers, superintendents of sawing works and the like, the training they have received qualifying them to fill such positions better than persons not so trained. The school, though longer established than the mining school at Kongsberg, has not yet had time to create a very general opinion of its usefulness among the working classes, or to exert a noticeable influence on the character of workmen.

BARRING OUT.¹

IT is remarkable how the introduction of one vicious boy into a school,—conducted as this was, upon somewhat republican principles,—can change the whole current and tone of thought of boys not originally ill-disposed. We were a wild lot, it is true ; but, though we adhered rigidly to our rights, our code of honor was also strictly enforced. I had risen in a few years, by regular gradation, from the first to the fourth form, when, unfortunately, a new boy came to the school, who, had he been a Fenian or a Ribbonman, would have set the whole side of a country in a flame. He was an idle, bad, good-for-nothing boy ; and, having been severely flogged more than once for his lessons (flogging was the order of the day if a boy failed in his task at the College of Armagh), he conceived a real hatred for the doctor, whom he looked upon, and endeavored to set forth among us, as a tyrant and persecutor, whose aim and object was to injure and ill-treat the boys. He so far succeeded in establishing these sentiments against the really kind-hearted doctor that a series of annoyances of the most vexatious and perplexing character was planned and set on foot to annoy him. The boys at Armagh had long had a fancy for dabbling in gunpowder experiments,

¹ From Trench's "Realities of Irish Life."

and, upon more than one occasion, had scorched the skins off their own faces, and nearly blown the roof off the house by accidental explosions which took place during the manufacture of their fireworks.

The new boy resolved to turn this fanciful peculiarity to the detriment and annoyance of the authorities. One of his contrivances was to make up small parcels of gunpowder, wrapped tightly in numerous folds of brown paper. These he placed at the back of the fire, among the coals which had been recently heaped on the grate, but which had not yet ignited. This performance he effected in play-hours, just as school was about to open ; and explosion after explosion, to the amazement of all the assistants, was, of course, the result. This he called "blowing up the ushers," as the assistant teachers were then called ; and he generally so contrived it that the explosion should take place just as the usher had gone to warm himself at the fire. Hitherto, however, he had confined his practice to the assistants ; but having been soundly flogged by the doctor for some piece of mischief or idleness, he intimated confidentially to some of the choice spirits whom he had induced to join him that he would certainly blow up the doctor ! He accordingly purchased about half a pound of gunpowder, and having wrapped it in brown paper, and placed it behind the coals just previous to the hour when the doctor, according to custom, came into the school, he retired to his desk and gravely awaited the result.

The school-bell rang for business soon after this bomb-shell had been deposited ; and, as usual, the doctor slowly entered the room, and took up his place with his back to the fire, and with his hands behind his back. He was of a literary turn of mind, and an author of some celebrity ; and the whole of the school business being somewhat distasteful to him, I suspect he often allowed his mind to wander far away from the annoyances of his position into the cultivated fields of a literary elysium, which he was so fully capable of enjoying.

Suddenly—in a moment—he was recalled to actual life, and his position rudely forced upon his attention. A loud explosion took place, which violently burst open the door, and shattered every window in the large and lofty school-room. At the same time, a volley of grape-shot—in the shape of small pieces of coal, aided by the severe concussion of the air—sent the doctor flying into the midst of the school-room. He looked around in astonishment, not knowing in the least what had happened ; but feeling his hands in pain, he looked at the palms, and found them blackened with the coal. Turning round rapidly, he perceived that the fire was blown about the floor, and at once the whole of the unworthy plot rushed upon his mind.

He looked round gravely upon the school, and said :

"Boys, which of you has done this?"

There was a dead silence. Gradually the absurdity of the whole scene forced itself upon the imagination of the boys, inclined as they were to make fun out of everything, and an almost universal titter ran through the school. The doctor waited until the titter had subsided, and then firmly saying :

“I will stop all the holidays until I know who did this,” he walked out of the school-room.

I have already stated that the boys at Armagh were universally tenacious of what they termed the “ancient rights of the school.” They submitted to those rights themselves without murmuring, although some of them were occasionally very severely exercised. Among these rights was the allowance of a half-holiday every Wednesday, or, if a premium had been obtained in Trinity College, Dublin, by any under-graduate who had been educated at the school, a whole holiday was granted. The right to these holidays had been the rule of the school from time immemorial, and the privilege was guarded by the boys with the utmost jealousy. It may, therefore, be supposed that the doctor’s announcement met with no sympathy whatever. Had he appealed to our honor and good feeling, and said, “Boys, this is a vile and dishonorable act toward one who has ever treated you kindly and fairly—an act quite unworthy of gentlemen. I know it is against your code to tell of each other, and therefore I do not ask you who did it ; but I expect you will of yourselves punish the ungentlemanlike individual as he deserves,” I firmly believe we should have cheered the good old doctor with all our might ; and having seized the mischievous culprit, we should have made him run the gauntlet (our school punishment for any breach of our code), and “licked” him to our heart’s content. But the doctor made a fatal mistake in the course he now pursued ; and, instead of enlisting the well-disposed upon his side, this unlucky announcement banded every boy against him.

The whole bearings of this important case were fully discussed by the boys. The threatened infringement of our rights was looked upon as a most serious affair. The head boys of the school sat day after day in deliberation on this knotty point ; and to this hour I cannot look back without surprise upon the calm judicial spirit in which the whole case was taken up and fairly argued out, before any decision was arrived at.

At length the head boys gave out their final verdict ;—that in threatening to stop the holidays because we would not break through our well-known code and turn informers upon our school-fellow, the doctor had exceeded his power, and broken through the long-established rights of the school ; and, though we deprecated the act which had been done, we would *not* give up the delinquent. A statement to this effect was

written out upon a round piece of paper, and left, neatly folded and directed to the doctor, on the table at which he usually sat.

This document was received on Tuesday morning. And as it was usual for him, on the breaking up of the school on each Tuesday evening, to announce whether the following day was to be a half or whole holiday, according as we might be entitled to either, the announcement of that evening was looked forward to—I suspect by both parties, but certainly on our side—with the utmost anxiety.

At 4 o'clock in the afternoon the bell rang as usual, and the boys all stood up, preparatory to dismissal for the evening. The doctor then announced, in a grave voice—

“Boys, there will be no holiday to-morrow.”

Not a word was spoken. The doctor left the room in silence, instead of being cheered, as he usually was when a whole holiday was granted. We soon went in to dinner. Not a word was uttered during the meal, and it was evident to him as well as to ourselves that war had broken out between the parties. From that time, I regret to say, the boy whom we all knew to be mischievous and vicious, became a popular hero among us. He was now completely in his element.

“I told you,” he cried, “that the doctor was a tyrant and oppressor, who delighted in harassing us by every act of injustice in his power. Look at what he now wants to do; to stop our holidays,—one of the most ancient rights of the school. I, for one, will never submit to it. Let us rise up against it, and carry the war into his own quarters; and you may depend on it we will put him down.”

Irritated as we were at the moment by our supposed wrongs, these sentiments were loudly cheered, and an aggressive course was determined on. It happened, at this time, that one of the ushers had rendered himself very unpopular among the boys. He had “reported” this young scoundrel on more than one occasion, and the boy had been flogged in consequence—a punishment which he richly deserved. That the usher should report him if he detected him in improper conduct, was considered all fair and right among the boys. It was his acknowledged duty to do so; and no ill-will was ever entertained toward him for performing it. Not so, however, with this worthy, who had now become our hero. And possessing, as he did, the peculiar art of making us the avengers of his own private hatred, while we fancied we were performing a public duty, he soon turned the current of public indignation against the unfortunate assistant.

In accordance with this tone of feeling, the assistant was denounced as an enemy to the rights of the school, and it was resolved to punish him by giving him a judicial beating. But inasmuch as he was a strong man, and we were well aware that the consequences of such an act, if the per-

petrators were discovered, would be immediate expulsion from the school, he invented a plan for meeting all difficulties. He arranged that in the evening, when the boys were preparing their lessons for the following day, a little boy should be sent up to the usher to ask the explanation of some Latin passage, and, while he was thus engaged, some boy, bolder than the rest, was to come behind and put a bag, with running strings attached, over the head of the unfortunate assistant, and, the strings being drawn tightly around his neck, his enemies were then to be let loose upon him, and thrash him to their hearts' content.

This diabolical plan was shortly afterward put into execution. A little boy, carefully kept ignorant of the intended assault, was sent up to the usher to ask him the explanation of a passage in Ovid ; and, while he was engaged in the study of the sentence, a linen clothes-bag was suddenly popped over his head. Two other boys, at a little distance, immediately pulled tight the strings, which were made sufficiently long for the purpose, and, before the unfortunate man had an idea of the real position in which he was placed, every candle in the school-room was "doused," and shoes, candlesticks, dictionaries, school-books, and every kind of rubbish were hurled at him by the dim light of the fire, till he became the centre of a storm of missiles. The wretched man, not knowing what had happened or was about to happen, shrieked in the agony of terror, and having at last succeeded in tearing the bag off his head, he rushed from the school-room amid the shouts of the boys and an increased storm of books and shoes, and disappeared like a flash of lightning !

"Now, boys," said our clever and malicious leader, in a rapid voice, "he is gone for the doctor. Light all the candles again ; gather up the shoes and dictionaries ; and be all hard at work learning your lessons like mad !"

In a moment all set to work. Feet were slipped into every out-lying shoe, no matter whose it might be, or whether it fitted or not ; the dictionaries and books were collected in the twinkling of an eye ; the bits of candles, which were lying in every part of the room, were crammed into their sockets ; and, in a surprisingly short time, every boy was hard at work at his own table or desk, with his hands up to his ears in an attitude of intense study ; and a general hum of business, such as one hears in a busy, crowded school-room, pervaded the whole assembly.

In less than five minutes the doctor rushed into the room, with a heavy horsewhip in hand, followed by the unhappy usher as pale as death.

"What is all this ?" cried the doctor. "Who has been guilty of this outrage ?"

He was going to proceed in his denunciations of this most nefarious act, when he stopped short not two paces within the door.

"How is this ?" said he, turning round to the usher behind him ; "I

thought you told me the whole school was in an uproar ; they seem all quiet enough, and minding their business, as usual ?”

The wretched man could scarcely speak a word ; he was completely confounded and overcome. And to this day, if he be still alive, I have no doubt he looks back upon the whole scene as the hallucination of a frightful dream. There was nothing, however, to be done ; he had not the faintest conception who had bagged him ; and even the name of the innocent little boy who had been put forward as a stalking-horse, to capture him, had wholly escaped his memory.

No action was, therefore, taken in the case ; but a more stringent determination than ever was arrived at by the doctor to allow no holiday, until the perpetrator of the bomb-shell scene should be brought to justice.

War was now openly proclaimed. Plotting and conspiracies became the order of the day ; lessons were neglected, and frequent floggings, not unaccompanied by angry feelings on both sides, were the result. At length another Tuesday came round, and again the doctor announced there would be no holiday on Wednesday. The boys became highly exasperated ; whether rightly or wrongly, they firmly believed that a deep injustice was being done them ; and it was resolved that if another holiday was stopped there should be a “barring out !”

It was remarked that the mischievous young scamp who had brought all this trouble and anxiety upon the school, no longer appeared to take any active or leading part from the time that a “barring out” was decided on. Forward as he was in all petty mischief under cover of our code of honor, so long as he knew that no boy would betray him to the authorities, yet he shrank from the responsibility of open rebellion, from the consequences of which he foresaw he could not possibly escape. And, having made some mean excuse, he withdrew from our councils, and left the planning of the rebellion to the bolder and more daring spirits.

Up to this period I had not been taken much into council as to the issues of peace or war ; but now that war was practically declared, I was accepted as a volunteer—though only in the fourth form—and was one of the youngest who joined in the “barring out.” The delight I then felt at the prospect of a rebellion was beyond anything I can describe, and, indeed, I may add, beyond anything I can now clearly understand. But I was convinced our cause was just. I had taken no part whatever in the bomb-shell assault upon the doctor ; I had, in fact, entirely disapproved of it, and would most gladly, if I could, have dragged the perpetrator to condign punishment—for I disliked him personally as much as I disapproved of his proceedings. My feelings were generally participated in by the leaders of the “barring out ;” but we all felt deeply indignant that the most valued of our ancient privileges should be wrenched from us as punishment for a crime of which we were not guilty.

The momentous day again came round, and again the doctor announced that there would be no holiday! Not a word was spoken by the boys; he left the room in silence; and, after dinner, we assembled in our usual place of meeting to organize an immediate "rising." We had been so long plotting it beforehand that our plans were quickly matured, and it now only remained to put them in active operation. The most active preparations were immediately set on foot. Rope ladders were made with grappling irons attached, to enable us to scale the walls of the play-ground in the dark. And, having thus secretly effected our liberty, we made extensive purchases in the town. An enormous quantity of bread—sufficient to last our garrison for a month at least—was provided, and loaf after loaf was pitched over the wall into the play-ground. Some large cheeses were also purchased as a food that would keep for any length of time. Abundance of whisky found its way in. Some wine was also secured, and several rounds of salt beef, ready cooked, were bespoken from different butchers. Some small kegs of beer were also, with much difficulty, landed inside the wall; and our preparations for a siege were crowned by the purchase of seven or eight pistols, a few bullets, some flasks of gunpowder, and a quantity of "sparrow-hail," a name given to the smallest kind of shot in use. We also arranged that some tubs should be prepared for getting a supply of water on the night of the actual rising.

The collection of these numerous stores, and the stowage of them in safety, was a labor of considerable difficulty and some danger. We hid them chiefly in caves which we had excavated in the play-ground for the purpose. It was necessary that every article we required should be got over the play-ground wall at night, or rather during the long, dark evenings. The wall was twelve feet high, so that this was no light task, and the danger of detection was imminent. Our code of honor stood by us on this occasion; and not a single boy "peached," though all knew perfectly well what was going forward.

The arrangements being now completed, twenty-four volunteers were selected to take part in the rebellion; and they were formally sworn "on their honors" to stand by their leaders, and never to surrender as long as their leaders held out. We arranged to bar out in a large dormitory, situated at the top of the house and in the western wing of the building; and our plan was—that when we went up to bed in the evening, and were, as usual, locked in by the usher, we should wrench back the bolt of the lock, let out some little boys, who were unfit to take part in the enterprise, admit some big boys who slept in another room, take in our supplies; and, all being ready, on a given signal, hammers and nails were to be openly and freely used, the doors fastened firmly with iron spikes on the inside, the banner of rebellion raised, and war declared.

WORMAN'S AND OTTO'S GERMAN GRAMMARS.

BY PROF. GUSTAVUS FISCHER.

WE endeavored to show in our last article, that Mr. Worman is incompetent to *write* a German Grammar. We propose to prove now, that the compilation of rules, which he calls a "complete German Grammar," is utterly useless either as a class-book or for self instruction.¹ Indeed we do not know a grammar in which could be

¹ When our last article was already in the binder's hands, Mr. W. published a "revised edition" of his grammar. We will do him the justice to say that he has made several alterations, and indeed has removed some few of the blemishes noticed in our last article. But there are several changes, which actually *introduce* new blunders, and make the bad worse, as the reader will find out by and by. Had we known Mr. W.'s changes beforehand, it would have been easy for us to substitute for the corrected blunders an equal number of uncorrected ones, which in our gleanings from this rich harvest of grammatical monstrosities we had left behind. Thus we might have introduced his rich remark, p. 267: "*The conjunction als requires the pronoun to follow the verb*;" or the elegant genitives „beß grausamen Lebens" (p. 136), and „unseres Adolfs" (p. 26), according to which Mr. W. certainly would decline, „unserer Mariens;" or his elegant sentences: „Ich hatte für mehr als ein Jahr Unterricht" (p. 215), and „Ich habe mich seit fünf Viertel Jahren hier niedergelassen" (p. 159); or his profound remark on the sentence: „Der vier Wochen sah ich" etc. (p. 160), when he says: *The ADVERB vor requires the pronoun to be placed after the verb*. If it was worth the while we would direct Mr. W.'s attention to pages 76, 85, 108, 124, 135, 153, 163, 173, 174, 180, 185, 192, 198, 202, 206, 209, 220, 223, 232, 250, 258, 259, 283, 328, 351, 378, 386, and a great many others, where he would find abundant material for a revised edition. But Mr. W. may rest assured, that his book is past cure.

In order to give the reader a foretaste of his "revisions," we would refer for instance to page 84. That page was certainly one of the least objectionable of this precious volume, since there was only one blunder in the whole page, as far as we could see. This, of course, remains uncorrected. But he contrives to crowd in *eleven new* blunders, if we count leniently. He introduces the sweet plurals Wärme and Zeiten (thinking probably of the popular Berlin establishment of this name), and makes the rare and exclusively poetical Thale the regular plural of the noun Thal. He makes us acquainted with the nouns die Bach (the brook), and das Ort (the place), which, although mentioned by Becker, is only found in dialects. He states on the same page that der and das Sohn, der and das Thell, der and das Zeug are used indiscriminately, but informs us of the following startling differences in meaning: Orte, *places*, Derter, *single places*; Länder, *countries*, Lande, *portions of a country*; Dinge, *things*, Dinger, *nice things*. These Dinger we may consider as the first fruits of Mr. W.'s studies in synonymics, and as a kind of earnest of his contemplated edition of Eberhard's synonymical work, for which he unquestionably shows an extraordinary fitness.

On page 193 we find the following sentence of Auerbach's: Jeden Morgen, ehe ich an die Geschäfte gehe, richte ich meine Augen auf drei Dinge. In his first edition he remarks to this sentence: Ehe (*before*) *causes the verb to precede its subject*. But he must have suspected something wrong in this nice little rule, for in his second edition he has thus "revised" it: Ehe *throws the verb to the end of the clause, and requires the next clause to open with the verb*. But unfortunately the opening of the "next clause" with the verb is not owing to ehe,—but to the adverbial object „jeden Morgen," as Mr. W. will easily perceive, if he strikes out the whole clause, beginning with ehe.

These are indeed corrections *with a vengeance*. If after our former article any doubt had remained of Mr. W.'s total inability to analyze the plainest sentences, this inhuman "revision" would obviate the necessity of any further proof. But the reader must not think that these specimens are the worst, as indeed we were weak enough to suppose at first. Mr. Worman's work, like the works of Raphael and Correggio, *grows* at every new inspection. Let us turn to page 292. Here, in his first edition, he had the following sentence; Wir umgingen die Mauern der Stadt Berlin, which means; *We evaded the walls of Berlin*, while he intended to say: *We went round the walls of Berlin*. He must have been told that this sentence would not do; for in his "revised edition" he changes it to Wir gingen die Mauern der Stadt Berlin um, which unfortunately means; *We walked the walls of Berlin down* (made them fall by walking over them). Why in the world he accompanies this startling assertion with

found a greater number of faulty rules, a greater unclearness of expression, or a more perverse arrangement and distribution of the grammatical material. We would not find fault with a grammar for occasional errors. Even Jacob Grimm and Becker made mistakes. *Quandoque bonus dormitat Homerus*. But the errors of Mr. Worman are like Falstaff's lies, "*gross as a mountain, open, palpable*." The whole book is full of them, and it is rare that he did not give even to the most commonplace rules a taint of corruption.

The declension of the Nouns, which, like almost all the other chapters, is a virtual copy of Otto's, occupies thirty-two pages. There are no fewer than 58 paradigms to memorize, according to Mr. Worman, and 34 according to Otto, if we have counted correctly.¹ Both Otto and Worman assign to the nouns in *er, el, en* a separate declension (Lesson III, in 5 pages), while this whole declension might have been merged in their so-called third declension by means of a short remark, regarding the dropping of the *e* in the ending. Instead of following this simple plan, as all German grammarians do, they introduce, to maintain this declension, six rules, not a single one of which is correct. Mr. W. says:

1. "*The radical vowels a, o, u are mostly modified in the plural*." A glance in his Becker might have taught him that only a very few of these nouns modify their vowels, and that more than a hundred do not modify them. Thus the student is taught from the very beginning to misinflect an important class of German nouns.

2. "*Compound nouns are governed in their declension by the last component. Those belonging to the first declension are: Großvater, Sprachlehrer, Hausschlüssel, Zugvogel, Federmesser, Schlafzimmer*."² But there are perhaps more than three hundred compound nouns belonging to this declension; and how can a beginner tell a compound noun from any other polysyllabic? And of what use is the whole rule? Do Messrs. Otto-Worman imagine, that any beginner will insert an *ending* in the *middle* of a word?

the further remark; *Hoffentlich werden sie bald niebergerstossen werden* (we are in hopes that they will soon be torn down), after he has already walked them down, is more than we can understand.

After all, we begin to think that Mr. W. is more acute than we have taken him to be. We strongly suspect that he is a wag, who never intended this book to be a *grammar*. While we are seriously discussing his "blunders" he will laugh in his sleeve at our credulity, and that of his eighty-two "endorsers," one of whom assures the public in good earnest, that Mr. Worman's volume comes out like a "*sunny-faced blessing*." What epithet would this learned gentleman have bestowed on the book if he had seen the "revised" edition! Let Mr. W. by all means go on with his revisions, since there are still some passages in the book which have a semblance of correctness, and indeed might seem too sober to be taken for jokes in disguise.

¹ It is hardly necessary to remark, that four or five paradigms would have been amply sufficient to illustrate German declension, and that the monstrous multitude of paradigms introduced by Otto, and multiplied by Mr. W., must be necessarily subversive of the end which they are intended to serve.

² A literal copy from Otto. But Mr. W. has forgotten to add here his elegant compound *Uhrenschlüssel* (p. 28), which unquestionably belongs to this declension.

3. "*The following words do not modify the radical vowel: Der Adler, der Auchen, der Maler, der Tropfen, der Amerikaner.*"¹ For this thoughtless copy of Otto see our remark to No. 1.

4. "*The following nouns of this declension, ending in en, very frequently drop the n in the nominative, and do not modify their vowel: der Namen or Name, Funken, etc.*" In this list both Otto and Mr. W. leave out the words *Schade* and *Gefalle*. But the whole rule is badly expressed, since just the essential point,—that these words, even if they drop in the nominative their final *n*, nevertheless resume it in the oblique cases,—is not mentioned at all. The rule is also *misplaced*, both because the nominative-ending *n* of these nouns is inorganic, faulty, and obsolete, and because not all nouns of this category belong to Mr. W.'s first declension. He was therefore compelled to teach the declension of these words (taking *n*s in the genitive) in three different places.²

5. "*The following masculine nouns (8 in number) are regular in the singular, but take n in all cases of the plural, and do not modify their radical vowel.*" While the given list is incomplete, the student will be astonished to find the word *Nachbar* in it, which Mr. W. thoughtlessly copied from Otto, not noticing that this word does not at all belong to his first declension. Even here Messrs. Otto-Worman were compelled, not only to anticipate their second declension, but also to split into several lists, words closely belonging together, simply because they invented a first declension for words ending in *er*, *el*, *en*.

6. "*Words ending in or, derived from the Latin, take en with the exception of der Major, which takes e only.*" This rule is accompanied by the paradigms of *Gebatter* and *Professor*. But how in the world the word *Gebatter* can illustrate the declension of Latin words in *or*, and how these words in *or* come at all to the first declension (to which only nouns in *er*, *el*, *en* belong), is more than the reader will understand.³

7. "*In compound tenses the participle is placed last.*" This rule, without a single illustration, concludes the lesson on the *first declension*. Supposing that this rule belonged here at all, which it certainly does not, what can the beginner do with it? He cannot be supposed to know how to form compound tenses, and if he could, he would know

¹ In his "revised" edition Mr. W. adds the word *ber Wagen*. This shows only his ignorance in a stronger light. Just the word *ber Wagen* may modify the vowel or not. And it shows, moreover, that while he was "reconsidering" the matter, he nevertheless did not notice his blunder, regarding the Umlaut of words in *er*, *el*, *en*.

² Page 51 we find the declension of *Schmerz*, but only in the plural. The genitive *Schmerzens* is not even mentioned. Page 55 we find the declension of *Herz*, but defectively.

³ Mr. W. has overlooked that this word is not derived from the Latin, but from the French, which he might have seen by its accent.

⁴ Mr. W. has spoiled here his prototype Otto, who simply says, that the words *Professor* and *Doktor* in the singular are declined like words of the first declension. This remark, which alone may justify the introduction of these words in the first declension, is thoughtlessly left out by Mr. Worman.

without Mr. W.'s rule, that the participle of compound tenses is placed, as in English, *after* the auxiliary.

We have made the reader acquainted with *all* the rules contained in this lesson, in order to show, what may be expected in the following parts of the book, when we say, that this lesson is one *of the least objectionable* of all.

The third declension of Otto comprises the MASCULINE, and the fifth the NEUTER nouns, not belonging to the first and second. Mr. W. comprises both in one declension, and challenges in his preface the special attention of instructors to this improvement, by which he pretends "to have saved" in comparison with Otto a list of more than 250 words. But when we compare the two grammars, we find that Mr. W.'s vaunted improvement is nothing but an omission of the *name* "fifth declension," since he divides his third declension into two sub-declensions, exactly corresponding to Otto's third and fifth declensions. The only real difference from Otto is this, that the latter lays down the rule: *Neuter monosyllabics take in the plural the ending er*, treating those words that form their plural in *e* as *exceptions*, while Mr. W. makes Otto's exceptions his rule, and Otto's rule his exception. The list of Mr. Worman's exceptions contains 55 words,¹ while Otto's exceptions comprise 42 words. This would amount to 13 words which *Otto* has "saved" in comparison with *Worman*, which number would be considerably increased, if the list of the latter was complete. This is indeed a novel way of "saving," and a more novel way still of stating a case.

The remainder of Messrs. Otto-Worman's rules on declension are real models of confusion. They separate things belonging together, and combine those that ought to be separated. By means of some self-made rules they incorporate the declension of foreign in that of the German nouns, in consequence of which the most important nouns taken from foreign languages will be misdeclined by the student.² The formation of the plural in *s* is not even mentioned (*die Lords, die Stuarts, die Genies*, etc.), although Mr. W. himself uses them occasionally.³

In regard to the dropping of *e* in the genitive singular, Mr. W. states in his first edition, that dissyllabic and polysyllabic nouns drop the *e* (p. 45), but that the *e* of the dative must be retained even in dissyllabics and polysyllabics. But his very paradigms contradict the former, and his own usage, in innumerable places, the latter rule. Thus we find

¹ In the revised edition. In his first edition he had 37. But his list is by no means complete yet. There are still wanting *Denkmal, Mal, Graß, Holz, Licht, Stift*, and many others.

² Thus according to the rules of Otto-Worman we must decline: *der Eylon*, gen. *des Eylonen*; *Patron*, gen. *Patronen*; *Instinkt*, gen. *Instinkten*; *Rubin*, gen. *Rubinen*; *Statut*, nom. pl. *Statute*; *Insekt*, nom. pl. *Insekte*; *Studium*, pl. *Studiume*; *Evangelium*, pl. *Evangeliume*, and innumerable other enormities. Why did Mr. W. copy Otto, while in his Becker the subject is so admirably treated?

³ Thus we read the plurals *Billetts* (p. 316), and *die Rothschildts* (p. 396).

in his paradigms the genitives *Gebrauches*, *Generales*, *Stadthutes*, *Stadthumes*, etc. He himself says *von Stein*, *von Holz* (p. 158), *am Main* (p. 159), and students would be corrected by him, should they say *im Juni*, *im Januar*, instead of *im Junie*, *im Januare*, or *des Hindernisses*, instead of *des Hinderniss's*, which, according to his elegant rule, would be the only correct form. In his revised edition he has changed this rule thus: *Derivatives in ig elide the n in the genitive and dative singular. Some writers elide the e before all dissyllabic and polysyllabic nouns, unless the last syllable is under full accent.* Who are these writers?—As for the derivatives in *ig*, Mr. W. contradicts his rule by his very paradigm „*der König*,” where he forms the dative *dem Könige* (p. 50). In regard to the second improvement of his rules, it would be still incorrect to say *im Januar*, *am Main*, *von Holz*, etc., while Mr. W.'s genitive *des Gefängnisses* in the paradigm p. 54 would be correct only according to the usage of “some writers.” Mr. W. will begin to perceive, that his revision needs a re-revision.

The lesson on GENDER, containing 10 pages, is introduced (p. 77) by the following remark: *This part of German Grammar is unfortunately so difficult¹ to reduce to general and precise rules, that the student can be successful in learning the gender only by a careful² studying of the following rules.* This remark, which is nothing but a corruption of Otto's introductory observation, shows that Mr. W. meant to give complete rules on the German gender, and hence must have imagined that Otto meant the same. But we find only some rules on the gender of some nouns with derivative endings, besides several useless or erroneous rules on gender by signification. The whole chapter might have been condensed to some 20 lines, and yet contain every one of Otto-Worman's correct rules. How the student has to treat the gender of about ninety-nine-hundredths of German nouns, he is not told at all. Into what errors students must be led by these rules, appears for instance from Mr. W.'s (original) statement, *that adjectives used as nouns are of neuter gender* (p. 50), from which it would follow, that absolute adjectives denoting persons, either do not at all exist in German, or else are of neuter gender; so that we must not say *der Kranke* (the sick man), but *das Kranke*, not *der Alte* (the old man), but *das Alte*.³ The names of RIVERS

¹ It seems to have not been so very difficult for Mr. W., since he again copied the lesson from Otto, who makes the following introductory remark: The gender of the German nouns having been established by custom and arbitrary use, general and precise rules cannot be given. Unfortunately this circumstance renders the study of the German language somewhat more difficult than it otherwise would be.

² From which it follows, that in the other lessons the student may be successful even by a careless study.

³ On the other hand, we are not at all told how absolute PRONOUNS must be treated in regard to gender, so that it would be impossible for the student to translate sentences like these: “I do not know this;” “He has done the same,” etc.

are declared to be FEMININE (another improvement upon Otto), with only six exceptions. These the reader certainly would not have guessed. They are the rivers *Mississippi*, *Missouri*, *La Plata*, *Ohio*, with two German rivers, the *Main* and the *Rhine*. Hence the author did not know, that the names of *all* rivers, not in Europe, are MASCULINE, and that the gender of European river-names is treated according to principles very different from Mr. W.'s rule, according to which the student would say: *die Nil*, *die Ganges*, *die Hudson*, *die Delaware*, *die Ebro*, *die Redar*, *die Don*, *die Niemen*, *die Inn*, *die Po*, *die Jordan*. That in the confused mass of Messrs. Otto-Worman's detail one of the most important rules, (that of the neuter gender of COUNTRIES and CITIES) is entirely omitted, will surprise nobody.

In Lesson IX. (Names of Countries and Places)¹ Mr. W. informs us, that national "masculine"² appellations are formed from the names of countries³ by adding *er*, while in his revised edition he adds: *and by modifying the last radical vowel*. According to this wise addition Mr. W. must necessarily say: *Barthäger*, *Thröler*, *Brabänter*, *Burgünder*, *Medlenbürger*, *Rassäuer*, *Babylöner*; and he surely must call *himself* a *Brandenbürger*. This is indeed not the way to cure bad rules. For that his rule is bad, he might have seen by the great number of national nouns, which are not at all derived from countries, as: *Gothen*, *Sueben*, *Hunnen*, *Bandalen*, *Russen*, *Sachsen*, *Celten*, *Wästen* and innumerable others. By his preposterous rule he was compelled to invent the "irregular" formation of national nouns in *e*, which in his first edition comprises 8, and in his revised edition 10 names (adding *Asiate* (*sic*) and *Schwede*). If the author does not know more national nouns, ending in the singular in *e*, than these, his historical and geographical knowledge must be very limited indeed. We need not be surprised, that he entirely omits to show the formation of civic nouns, since the plain rule, which might be given on them, is probably too plain for him.

The different chapters on the German verb are again virtually a copy of Otto's rules, always excepting the "improvements" by Mr. W., with the nature of which we are already familiar. The mere conjugation of the verb, without its syntax, occupies 143 pages, not counting the list of irregulars, which at the end of the book occupies 9 more pages. The paradigms given are countless. Supposing all of Mr. W.'s rules were correct, we should nevertheless unhesitatingly reject his book on account of such extravagance. But we maintain, that not only are the rules he gives unfit to be memorized on account of their profuseness and un-

¹ Which Mr. W. translates by „*Bölkernamen*."

² We presume, Mr. W. meant to exclude by this elegant epithet the ancient nation of the *Amazones*, this being to our knowledge the only "feminine" nation that ever existed.

³ In his revised edition he makes the important improvement of the "*respective*" countries.

clearness, but that the student, even after their committal, would not have learned to conjugate the simplest and easiest German verb correctly. Otto's absurd plan of showing the complete conjugation of the anomalous verbs *können*, *müssen*, *sollen*, *wollen*, *wissen* and *dürfen* with complete paradigms, before he has shown how to form the tenses, and before the conjugation of the regular verb, has not only been adopted but also improved upon by the addition of *lassen*, which in its conjugation has not the slightest analogy with the six verbs of Otto. Did not the perverseness of this plan strike the gentlemen from the fact that they were compelled virtually to repeat the greater part of the lesson towards the end of the book? After these paradigms and those of *sein*, *haben* and *werden*, a bit of adjectives and pronouns is introduced. Next comes the regular verb. Then again a piece of adjectives and pronouns, half of which is a repetition of previous lessons. Then comes the irregular or "ancient" verb; then "compound," "neuter and intransitive," "reflexive" and last "impersonal" verbs. How compound tenses are formed in German the student learns p. 162, long after he had to commit the compound tenses of Mr. W.'s ten irregular paradigms. In none of the paradigms is given even so much as an intimation, which might enable us to distinguish the different grammatical PERSONS, and the student cannot see from Messrs. Otto-Worman's paradigms that there exist such things as first, second, and third persons, although in all tenses and moods *seven* personal forms are found. The student, for instance, is not informed whether the form *Sie loben* is a second or third person, a plural or a singular. From the paradigms it *seems* to be a second person plural, since it is translated by *you praise*. But, p. 180, he calls it, "properly speaking," a third person, and in a remark he says: "At present the *third* person *plural* is almost universally employed (for address)." If this is so, why has he encumbered all his countless paradigms, in every tense and mood, with *two* third persons of exactly the same grammatical form?

In regard to the CONDITIONALS, which seem to have a kind of amphibious nature, since Messrs. Otto-Worman neither call them tenses nor moods, the student will be struck with a bran-new invention of Otto, which, of course, is copied by Mr. W. According to Otto some verbs have two first and two second conditionals, while others have two second but only one first conditional. Thus the *first* "first conditional" of *können* is *ich würde können*, while the *second* "first conditional" is *ich könnte*. But the same *second* "first conditional" occurs also as imperfect subjunctive, so that we have two *different* moods (or tenses), which nevertheless are absolutely identical. We might just as well conjugate our English "I had" twice in the paradigm, because sometimes it has a conditional meaning. Bewildered as the student must be by

such grammatical manipulations, he will be more startled yet when he learns that in the regular paradigm of *loben* this duplicity of the conditionals in Otto is confined to the past conditional alone, while in Worman it altogether disappears. But what will be his astonishment when he finds that Mr. W., who, as it would appear, must necessarily have a double first and a double second conditional, has raised the subjunctive of the two futures to the dignity of conditionals, by translating them "*if I shall praise,*" and "*if I shall have praised,*" in his paradigm.¹

In regard to the dropping of the letter *e* in the endings of the verb, Mr. W. leads the student into a perfectly inextricable muddle, as if to give evidence of his ability to involve even the plainest subjects in difficulties, and to falsify the very clearest principles. We look in vain for an explanation, regarding this *e* in the endings. We are only told that "*e*" is in certain cases (see below) "inserted." In Otto-Worman's regular paradigms the *e* *never* appears in the second and third persons of the present indicative, but *always* in the second of the plural and in the imperative. From this the student must necessarily infer that the use of *e* in the 2d and 3d ind. pres. is prohibited, while it is allowed in the 2d plural. To what mistakes this will lead, appears from Mr. W.'s own experience, who mistook, as we mentioned in our last article, verbal forms with *est*, which were indicatives, for subjunctives, unquestionably in consequence of the "inserted" *e*. But this is not enough. Mr. W., corrupting a correct, but badly expressed rule of Otto's, enriches German Grammar with the following startling remarks: "*Verbs ending in l or r take n, all others take en in the infinitive*" (p. 161). Hence we must form the following monstrous infinitives: *wählen*, *stellen*, *lehren*, and consider the correct infinitives *thun*, *sehen*, *bestehen*, *sein* as solecisms. He continues (p. 165): "*For the sake of euphony all regular verbs, whose last radical letter is m or n insert e between the radical letters and the termination in every mood, tense or person;*" hence he would "correct" forms like *tönte*, *rühnte* into *tönete* and *rühnete*.

The rules on "irregular" verbs occupy, without the general list, fifty-three pages. They are also a virtual copy of Otto's rules. Otto divides these verbs into five conjugations and ten classes, whose number Mr. W. brings up to thirteen. How beautiful this classification must be, appears for instance from the fact, that the verbs *thun* (that, gethan) and *essen* (aß, gegessen) according to Otto-Worman not only belong to the same conjugation, but also to the same class; that *wissen* (wußte, gewußt)

¹ Mr. W. construes *wenn* (if) absolutely with the subjunctive, and says so (the reader will hardly believe it) in at least 15 places of his grammar. This may account for the horrible blunder, to interpret a German mood in the very paradigm by an English translation, which never, not even in a single instance, can be employed for that mood.

² He means the *stem* of the verbs.

and *sehen* (*sah, gesehen*) both belong to the same conjugation ; while *sitzen* (*saß, gesessen*) is classed, not with *essen* (*aß, gegessen*) as would be presumed, but with *binden*, (*band, gebunden*). To enumerate the execrable blunders that occur in the conjugation of the single verbs (as for instance *ich mahle, du mählst, er mählt* ; imp. *ich muhl*)¹ would occupy more space, than we can devote to the subject. We must consider the whole chapter as a mere waste of paper ; and from the mentioned bits of classification the reader will readily believe us when we say, that a correct alphabetical list,² which might have been copied from any good German Grammar, would have been by far better than all the rules contained in Mr. W.'s fifty-three pages. With all his prolixity Mr. W. does not even show, how to form the imp. of *rathschlagen*³ or the imperf. subj. of *senden, wenden, sterben, verderben*, or make us acquainted with the frequent poetical imperatives *fleuch, zeuch, gebeut*.

The 17 pages of compound verbs, which are likewise a virtual copy from Otto, are full of contradictions, blunders, and unpractical rules. Both, Otto and Worman, utterly fail to explain the true nature of German separable and inseparable compounds. The very definition⁴ of separable compounds is contradicted by the introduction of *voll* and *wieder* among the *inseparable* prefixes. In order to make the confusion complete the verbs derived from compound *nouns*, as *antworten, friststücken, urtheilen*, are treated as compound *verbs*, and while Mess. Otto-Worman introduce a set of imaginary "compound particles," as *bean, benach, mißver, verun*, etc.; the real compound particles, as *entgegen, zuwider*, etc., which Otto duly enumerates, are entirely omitted by Mr. W. The lesson on "separable and inseparable" compounds, is a masterpiece of confusion, where Mr. W. has outdone all former grammarians, Grimm and Becker included, by discovering a separable particle, *hinter*, which he illustrates by the verb *ich gehe hinter*, of which he is likewise the discoverer, letting his light shine even upon the English language, in which he discovers two new compound verbs, "to stand under" and "to go under."

In the lesson on "*neuter and transitive verbs*," which has been introduced to make the student acquainted with those verbs which are conjugated with the auxiliary *sein*, Otto says virtually nothing but this: "The *following verbs* (here follows the list) *are conjugated with sein, all others with haben*." Mr. W., of course, disdained such superficiality,

¹ Thus Mr. W. says, p. 237, that *genesen* and *treten* in the pres. ind. are conjugated like *essen* (*du issest, er isst*) ; hence we must conjugate : *du genissest, er genisst* ; *du trittest, er tritt*. He conjugates *nehmen* and *steden* after *brechen* ; hence we must conjugate : *du nimst, er nimmt* ; *du stidst, er stidt*.

² Mr. W. indeed gives us an alphabetical list, but it is as all his lists, incomplete, although containing 9 verbs more than his lessons do. It contains not of a single verb the conjugation of the present.

³ Which, according to Mr. W., would be *rathschlug*.

⁴ Otto says : Separable verbs are such as consist of a prefix which may be used by itself. Worman : Verbs whose prefixes have a signification of their own are called separable compound verbs.

and for once made an effort to get along without Otto, although in part of the lesson (p. 298) he almost literally wrote him out. He accordingly had recourse to Becker, but, as might be expected, thoroughly misunderstood him. He first treats the student to the difference between "subjective and objective" verbs, and says: "*Subjective verbs correspond to English NEUTER verbs; those of the objective verbs, which require the genitive and dative, to the English INTRANSITIVES, and those requiring the accusative to the English TRANSITIVES.*"¹ This rule, besides its other merits, contains two grammatical discoveries—the difference between *English neuter* and *intransitive* verbs, and the invaluable simplification of the German case-theory which it suggests. Now the student needs only to know whether a verb is transitive or intransitive in English, to determine at once the German case required by the verb: a grammatical discovery of which Mr. Worman may well be proud, though the world may fail to appreciate it.

From Becker's rules on the use of *haben* and *sein*, Mr. W. has kept and dropped just enough to lay them perfectly lame. He says:—

1. *Neuter and intransitive verbs, that express a mere activity, a continuous state, are construed with haben.*

2. *Those that express a change or transition of their subject from one state to another, a motion from one place to another, are conjugated with sein, when the place or MANNER of the motion is referred to.*

3. *These verbs are conjugated with haben: (a) when the SIMPLE action is designated; (b) when taken in a figurative sense."*

With what auxiliary Mr. Worman conjugates the *transitive verbs* we are not told. According to this rule *sterben* must be construed with *haben* (Rule 3^a); *bleiben* with *haben* (Rule 1), and the verbs *kommen* and *gehen* with *haben* in phrases like: *Ich habe gestern gekommen* (Rule 3^a), or *Es hat mir schlecht gegangen* (Rule 3^b). Becker's plain rules on the subject could not have been more thoroughly ruined.² In a considerably more expeditious way the use of the verb *sein* with itself as an auxiliary, is explained in the following rich remark (p. 97): "*Gewesen must of*

¹ We must not be surprised that Mr. W. has abandoned this theory of subjective and objective verbs not only in the rest of his book, but in the very same lesson. For his prototype Otto knows nothing about objective—but only intransitive verbs. But how crude Mr. W.'s ideas are on the subject of intransitives appears from his treatment of the verb *läuten*, which he calls *transitive*, but translates it by "to ring the bell," while he calls *lauten*, to sound, its *intransitive*. Nevertheless he himself forms the sentence: *Die Glocke hat geläutet* (p. 299), which according to him must be translated: The bell has rung the bell.

² Thus in the lesson on REFLEXIVE VERBS Mess. Otto-Worman have so thoroughly mixed up the common theory and that of Becker, which are utterly incompatible with each other, that the whole subject has become a perfect abomination. The same may be said of the IMPERSONAL verbs; and the reader will readily believe this when he hears that according to Mr. W.'s rules we would be entitled to form the following monstrous phrases: *Hier geben Vögel* (inst. of: *Hier giebt es Vögel*); *sich nicht schickt zu schimpfen* (instead of: *Es schickt sich nicht zu schimpfen*), while on the other hand such expressions as: *Es wird mir geglaubt* are left entirely unexplained, and the phrase: *Es ist zu glauben* is declared to be an *active* construction.

course (!) be derived from Wesen.¹ Hence the Perfect I HAVE BEEN is in German, Ich bin gewesen.

From the Lesson on CONJUNCTIONS, which is perhaps the most hopelessly confused of the whole book, we extract the following passage :

OTTO.

1. Sondern contradicts one of the preceding members of the sentence; it can be used only in a clause which has not its own verb, completing only the first, if the antecedent contains a negation.⁴ 2. But when the second clause has its own subject and verb, aber must be used even after a negation. 3. When the antecedent contains no negation, "but" must always be translated aber or allein, both of which are indifferently used.

WORMAN.

1. Aber (Latin, *autem, vero*); 2. Allein (Latin, *sed, at*)² do not always place the sentences in opposition to each other; i.e., they are disjunctive, but they may also be copulative.³ Aber and allein are used indifferently if the antecedent clause has not a negation. [But when the second clause has its own subject and verb, aber is used even after a negative.⁴] 3. Sondern is disjunctive, and is used only when a decided contradiction of a statement contained [denied] in the antecedent [clause] is to be made by substituting an idea more correct or acceptable.

It would be an insult to the intelligence of the reader to comment on such combined onslaughts upon German, Latin, and English grammar. It is amusing, but still more pitiable, to witness the perfect helplessness of Mr. Worman, who attempts to patch the nonsense of his first edition by a shred of Otto's nonsense, while in reality he makes bad worse.

In the chapters on PREPOSITIONS, which are treated in three different places of the book, Mr. W. presents us with the following rich and original statements :

1. At, when used in the sense of on, is translated by auf; when in the sense of for by für. 2. By when used in the sense of on is rendered by an, when in the sense of after by nach, when in the sense of from by von, when in the sense of of by von. 3. In, when it signifies on is rendered by an; when it signifies by is rendered by bei, when it signifies with by mit, when after or according to by nach, when during by unter, when before by vor. 4. On, when it means upon or unto by auf, signifying by is rendered by bei, signifying concerning by über, signifying for by für, signifying with by mit, signifying under by unter, signifying at by bei.

So he raves on, wasting nine full pages (351 to 359); then again on pages 466-469. Who will read this supreme nonsense without

¹ Mr. Worman means the noun Wesen; for that he had not the faintest idea of the old German verb *wesan* appears from his remark page 99.

² That these Latin translations are perfectly arbitrary need not be mentioned.

³ Every German schoolboy knows that allein never can be used copulatively.

⁴ This gibberish is flatly contradicted by sentences like: Nicht des Feindes Tapferkeit hat uns besiegt, sondern unsere Selbstgläubigkeit hat uns einen Streich gespielt.

⁵ The words included in brackets are additions made in the revised edition. This elegant improvement is evidently a literal copy from Otto, which at the place where it stands has no sense whatever. It is thoughtlessly misplaced, but would be incorrect at any place.

Homeric laughter? What must the student think of a man, who seriously asserts that *at* meaning *on* must be differently translated from *on* meaning *at*, and that *on* may be equivalent to *under*?

Regarding the use of the GENITIVE Mr. W. (not Otto) has fabricated the following rule (p. 368, § 10):

The English or Saxon Possessive may be employed (in German) in all cases in which the governing word is the attribute of another word, *or* where it expresses *possession*. When, however, the genitive *qualifies* the governing words, or denotes the whole of which the governing word expresses a part, it is inadmissible, as: Ein Feld erster Größe, but not erster Größe's Feld.

From this example and rule it clearly follows that we *may* say with propriety: Meiner Schwester's Haus. On the next page he seriously warns the student not to say zwei Fässer Bier (two casks of beer).

In p. 370 he *forbids* the PARTITIVE GENITIVE after demonstratives, relative and indefinite pronouns, and ordinal numerals. On p. 372 he *allows* a partitive genitive after pronouns, cardinal and ordinal numbers; and on p. 393 he *prescribes* the partitive genitive (rejecting the preposition *von*) "in connection with numerals," als unserer zwei, two of us. But "*two of us*" must be translated not by unserer zwei, but by zwei von uns, so that the partitive genitive is *excluded just in the very example Mr. W. demands it*, while in almost all cases, where he excludes it, it may be used with propriety.

Regarding the use of *more*, Mr. W. says, p. 398:

1. *More* when before a noun in interrogative sentences, preceded by *any*, or when standing alone in affirmative sentences, is translated by noch. 2. When preceded by the negation *not* (he means *no*) is rendered by mehr, which is placed after the noun to which it belongs.

According to these rules he must require the following nice translations:

'Have you any more paper than my brother, Haben Sie noch Papier als mein Bruder. —I have more (sons) than you, ich habe noch (Söhne) als ihr. —I have no more money than you, ich habe ein Geld mehr als ihr (instead of nicht mehr Geld).

But with all this worthless detail, the student is not informed in any part of Mr. W.'s grammar how the German word mehr is *declined*. Thus it would be in vain to search in this grammar for a rule on the agreement of the predicative noun with its subject in case or gender, but nevertheless he makes us acquainted with the startling fact, that the predicative adjective, when used as a noun, *may* remain *indeclinable* (*sic*), when it denotes a *quality*, or a *material* named after that quality (p. 388); giving as an example: Die Farbe dieses Kleides ist ein schönes Roth.

Mr. W. forbids (p. 419) the use of *zu* with an infinitive after the verbs raten, befehlen, erlauben, wünschen, hoffen, fürchten, and forms, therefore, the elegant sentence: „Ich rathe Dir, daß Du solche Sprache nicht machest

(p. 450), rejecting of course the correct expression : *solche Sprache nicht zu führen*.¹

Another refreshing rule is that about the position of ADVERBS (p. 445) :

The adverbs, denoting chance, probability, and similar vague and undefined ideas are usually placed without regard to emphasis. When placed between the subject and the verb, where other adverbs cannot usually stand, they are said to give force to the subject, as : *die Tochter des Generals² vielleicht wird es kaufen*, perhaps the daughter of the General will buy it.

For the discovery of another very peculiar means to give "force" to words, we are likewise indebted to Mr. W., who says (p. 276) : *Whenever euphony requires it, the letter e may be added to adjectives, adverbs, and numerals*, as : *helle, gerne, frühe*.

But the richest masterpiece of all rules is found on page 212, *obs. viii.* :

The interrogative *was* cannot be connected with prepositions, but substitutes the adverb *wo*, which is prefixed to the preposition and inserts *r*, if the preposition begins with a vowel ; *e.g.* for what or *wherefore* are you quarrelling, *warum streitet Ihr?* The *only* departures from this rule are, that *was* is used sometimes in the sense of *warum*, and that the preposition may be placed *before was*, *e.g.*, for what (wherefore, why) are you beating me, *was schlägst Du mich?* What are you quarrelling about, *um was streitet Ihr?*

Divested of verbiage the statements of Mr. W. are these : (1.) A preposition cannot stand *before was*, but must be changed into *wo*. Example : *Warum* (not *um was*) *streitet Ihr?* Except that (2.) A preposition *may* stand before *was*. Example : *Um was streitet Ihr?* (3.) *Was* denotes *warum* without any preposition.

If there ever was an example of more concentrated nonsense, we acknowledge that we never heard of it.

When we conclude here our remarks on Mr. Worman's rules, we are by no means compelled to do so for want of material. On the contrary, we have presented to the reader but a dwindling fraction of his corruptions of German grammar. If we would record his *omissions* of important rules, we might fill a small volume with them.

We have only to make one more remark before we dismiss the subject. Mr. Worman has throughout his book evinced a perfectly ridiculous anxiety to insert scraps of other languages : Latin, French, Anglo-Saxon, Greek, Italian, Spanish, and even Hebrew. Most generally such cheap exhibitions of comparative philology are entirely out of place. But the most amusing fact is, that Mr. Worman often shows thereby his utter ignorance in the very languages which he thus

¹ Becker calls, as every German knows, the Infinitive with *zu* "the Supine." His rule, that the verbs *rathen, befehlen*, etc., are not construed with the *infinitive*, means nothing, but that they must be construed with the *Supine*, that is with *zu* and the infinitive. But Mr. W. imagined that Becker, of whose Supine, of course, he has no idea whatever, meant to *exclude* the use of *zu* and the infinitive after these verbs, and accordingly has formed the startling rule mentioned above.

² According to his rules and paradigms in declension he ought to have said *das Generals*.

parades.¹ What, after these exhibitions, we may expect of the textbooks of modern languages and literature, a whole series of which Mr. Worman threatens to publish anon, the reader will understand just as well as we. It must be a grand treat to hear him interpret Goethe's poetry!

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION VII.—*Nitrogen and its Compounds.*

NITROGEN is chiefly remarkable for its lack of chemical energy. It exists in abundance in an uncombined state in the atmosphere, but its inertness is such that but a very small proportion of it is drawn into direct chemical combination.

The preparation of this gas consists in enclosing some atmospheric air in a jar over water, and causing the oxygen to form a soluble compound. As the air is only one-fifth oxygen, we get four-fifths of a jar of nitrogen.

Exp. 50. Fill a deep plate nearly full of water. Float on the water a cork of about an inch and a half diameter, having its upper surface hollowed out to form a cup-shaped cavity. In the cavity, which should be perfectly dry, place a bit of phosphorus as large as a bean (observing the precautions given in *Exp. 39* for cutting and drying the phosphorus). Procure a glass preserve-jar capable of holding a quart. Ignite the phosphorus and hold the mouth of the jar over it, forcing the edge below the surface of the water.

The phosphorus burns fiercely at first, expanding and forcing out some of the air. The jar fills at once with white vapor of phosphoric acid, and the water rises gradually inside the jar to about one-fifth the height. The supply of water in the plate may be kept up by pouring from a pitcher. After a time, the phosphoric acid vapor will be absorbed by the water, leaving only nitrogen in the jar.

¹ Thus he makes *alius* an equivalent of "*the other*," the distributive *binis* an equivalent of "*two and two*," and explains thus the German phrase „rothen Wein" (of red wine). *The genitive singular* in the masculine and neuter, to avoid a repetition of *is* takes *n*. Compare the ablative absolute in *Latin*. By this remark he abundantly shows that he has no idea at all about the absolute ablative.

In a remark on the meaning of the verb *mögen* (p. 404) he says: "Luke XVI., 3 (the place is quoted by Becker), the English version has: *I cannot dig, to beg I am ashamed. The latter is not an accurate translation of the Greek text, for the faithless steward was perfectly able to work—he did not feel an inclination to dig, i.e., he did not like to dig.*"—Now, if we open the Greek text, we find there: *Σκάρειν οὐκ ἰσχύω*, which means: *I have no strength to dig.* Thus the English version is correct, and Mr. W. has his choice between the following two alternatives: either to have wantonly censured the English version of the Bible without looking into the Greek text, or to acknowledge that he has no idea of Greek, while he, without the slightest necessity, attempts to display a knowledge of it.

When ready for experimenting with the gas, invert the jar, first slipping a piece of thick pasteboard over the mouth for a cover, and holding it tight. Of course the water, the cork, and a small remnant of phosphorus remain in the jar, but that is of no consequence.

If you do not like to wait for the gradual absorption of the white vapor, invert the jar as soon as the phosphorus has ceased burning; hold the cover on firmly, and shake the water briskly until the gas looks clear.

Exp. 51. Try the power of the gas to support the combustion of a taper, as in the oxygen experiment. The flame is promptly extinguished. The gas is neither combustible nor a supporter of combustion, being in this respect unlike either hydrogen or oxygen.

From the promptness with which it escapes from the jar it may be inferred that it is lighter than air.

Exp. 52. Prepare as before a jar of nitrogen ready for experiment, and close beside it place a jar of oxygen. Provide the taper as in the former experiments, and let it burn in the air, till, on blowing it out, a spark is left on the wick. Lower it while lighted into the nitrogen jar till extinguished, then transfer it instantly to the oxygen, when it will at once relight. This may be repeated several times.

Exp. 53. Make a mixture of four volumes of nitrogen and one of oxygen, and observe that when tried with a burning taper, the flame is neither brightened nor extinguished.

The mixture has precisely the properties of atmospheric air.

Exp. 54. Place in a flask some shreds of well-washed raw beef. Pour on dilute nitric acid; make the usual connections for collecting gas over the pneumatic trough and apply heat. Nitrogen gas is evolved.

Nitrous oxide or Laughing Gas, from the readiness with which it yields up its oxygen, supports combustion and animal life. It is easily prepared from nitrate of ammonium.

Exp. 55. Fill a small flask half full of the crystals of the nitrate of ammonium, and, after making the usual connections with an inverted jar over the trough, apply heat. The crystals first melt, and then, with a somewhat violent ebullition, the liquid is decomposed into nitrous oxide and steam. The steam condenses in the trough, and the gas, though somewhat soluble in water, accumulates in the jar.

The connecting-tube should be of pretty good size. The process may be continued until the salt has all been driven off, although at the end of the decomposition the flask is in danger of breaking. The tube should be removed from the trough whenever the lamp is taken away from the flask.

Exp. 56. Try the power of the gas to support the combustion of a taper, and of phosphorus, exactly as in the case of oxygen.

Exp. 57. Burn sulphur as when experimenting with oxygen, but take

the precaution to have it quite hot and burning briskly before putting it in the gas.

Exp. 58. Pour some of the gas from one jar into another of the same or smaller size, taking great care to keep the jar containing the gas carefully covered until it is in position to be emptied; then raise the cover gradually from the lower side of the opening and hold the jar in position for a moment, as the gas flows much slower than a liquid.

The presence of the gas in the lower jar can be proved with the taper. Nitrous oxide is one and a half times as heavy as air.

Exp. 59. Some of the gas may be safely inhaled from the jar in the trough, by passing a rubber tube through the water and up into the jar, and breathing through the tube. There is no difficulty in breathing it, and there is no taste to it unless it be mixed with air, when it is slightly sweet.

Exp. 60. Nitric oxide is prepared by using an apparatus precisely like that for making hydrogen. In the bottle put some pieces of copper, and when the connections are made with the jar over the trough, pour some dilute nitric acid upon the copper.



Brown fumes fill the flask, but colorless nitric oxide collects in the receiver.

The residue in the flask is nitrate of copper, and may be crystallized.

Exp. 61. With some nitric oxide collected in a jar over the trough, generate oxygen in the usual way, and let it pass over into the same jar.

A dense brown gas is formed at once, which is so soluble that the water rises rapidly by absorbing it. It is hyponitric acid. If the gases have been carefully prepared, and if the oxygen added be just half the volume of the nitric oxide, the whole will be absorbed.

Exp. 62. Fill a tall jar or bottle with nitric oxide; invert it, and remove the cover; the brown fumes form at once at the mouth of the jar, and the whole is soon converted into hyponitric acid. This gas is extremely irritating to the throat and lungs.

Exp. 63. Prove by the taper that nitric oxide will not support combustion.

Exp. 64. Nitric acid may be prepared by heating together in a flask some crystals of nitrate of potash and sulphuric acid. The acid, which is driven off in the form of vapor, should be conducted through a bent tube to a bottle or receiver containing a small quantity of water, and which is kept cold by surrounding it with water by means of a wet cloth or a larger vessel of water.

Exp. 65. Ammonia, which is a compound of nitrogen and hydrogen, is easily prepared in the following manner. Mix equal quantities of sal ammoniac and quicklime, both finely pulverized. Put the mixture in a flask, with tube extending upward. Apply heat to the flask, and hold a

bottle, mouth downward, over the tube. The evolution of the gas is soon detected by its odor. Remove the bottle, and hold it, still mouth downward, in the water. The rise of the water shows the solubility of the gas. If the gas is allowed to pass into a bottle of water, it becomes a solution of aqua ammonia.

Water holds several hundred times its own volume of the gas. Its alkaline properties are shown by red test-paper.

CIVILIZATION AMONG THE JAPANESE.

BY PROF. F. L. O. RÖHRIG.

IT will be remembered that two years ago the Tycoon of Japan sent to Washington an Embassy or Commission, which remained among us some while. When these representatives of that far-eastern country and people quitted our Capital, they left behind them two young men of their suite, whom they commanded to perfect themselves in the English language and other subjects taught in American schools; and, for this purpose, to study some hours daily under the tuition of the writer of this article. But to teach two new-comers from Japan the English language, and to impart to them the necessary instruction relative to our grammatical system, with its many technicalities and niceties, and to be compelled to do this in the Japanese vernacular itself, was certainly not a very smooth and easy task for one who had never been in Japan, nor ever seen a native of that country, but had acquired his knowledge of its little known and almost unmanageable language somewhat in the same way that we are accustomed to learn Latin and Greek in our colleges. Still he proceeded in his efforts, from better to better, and soon succeeded in collecting, from his pupils, much valuable information about their native country, and especially in relation to such matters as are not easily found in books, or touching which no available source of information seems to exist. Concerning the school-system of Japan itself, we derived from our pupils the following details, which, however, by reason of the comparative youth and inexperience of our informants, are in many regards meager and indefinite. They differ also in many cases from what we had learned earlier from more or less direct and trustworthy sources; and hence they are to be accepted and judged with proper allowance.

According to our young Japanese friends, school-education is widely extended in Japan; even the female portion of the population having a fitting share in it. At present, society in Japan is divided into four

comprehensive classes, according to the supposed degree of culture and refinement which the members possess. The government officials, the liberal professions, so to say, authors, learned men, and that portion of the people which enjoys a good and finished education, form the first and highest class ; although there are, in respect to rank, some differences in the class, and in each rank again certain shades and *nuances*, as well as certain privileges and distinctions according to the one or the other of these ; yet the general characteristics of this class are for the profit of all. The *Daïmios*, or the nobility, belong, of course, to this class ; they are, moreover, the best educated and best bred men of the whole people. Their children, however, receive their education not in schools, but at home, from private tutors, for which purpose numerous carefully chosen masters are usually to be found at the petty courts of these dignitaries, and in their palaces.

The second class comprises the agriculturists, planters, gardeners, florists, etc.,—in short, those who furnish the people with what is needed for their sustenance. The Japanese consume very little meat ; we might even characterize them as *vegetarians* ; hence the importance they attach to agricultural employments.

Next come the artisans, who constitute the third class. They are scarcely less important than the last-named, since they provide raiment and shelter, as well as all else that is necessary to render existence comfortable and happy.

Of the last and remaining class are the tradesmen, who stand but low in popular esteem. The Japanese tradesman is certainly very different from his American brother. Of large trade as customary here, the Japanese have no conception. It is quite out of the question that the Japanese tradesman should likewise cultivate literature, science, and the fine arts,—the trading class being mostly low shopkeepers of the meanest kind. Hence the Japanese proverb : “Every one may buy and sell.” Their calling requires, therefore, no preparation in commercial colleges, nor any scientific or high attainments. There is in this regard, too, a vast difference between the artisan class and the last class, in favor of the former. It is deemed that while the first three classes are a source of immediate and real blessing to the people, the advantages which the trading class bestows are of an inferior, even of a negative sort, in so far as the chief profit thence is for itself. From this point of view, tradesmen are looked upon as a kind of Pariahs by the people in general. The children of tradespeople are not admitted to government schools, and therefore it is not to be wondered at that their lack of education has become almost proverbial in Japan.

In Japan, there are five chief schools : The Naval school, the Military school, the Medical school, the University, and the Reading school.

These are all at Jeddo, and are essentially governmental educational institutions. In no other place in the empire is aught similar to be met with : in Japan, somewhat as in France, everything of that kind appears centralized at the capital.

The government schools are attended both by youths and by pupils of riper age. Upon his entrance into an institution, the scholar has to present to the master a note containing his own name, the name of his father and of his business, and a statement of his own age and education. Every morning afterward, he has to put his name upon a list kept for that purpose, so that the school authorities may be certain of his punctuality and regular attendance—which register is examined every month. In the government schools, the instruction begins at 10 o'clock A. M., and ends at 3 P. M. Save on festivals, there are no holidays.

The Naval school is called *Kaigun shu*. The masters are ship captains and naval officers of a low grade, who teach the sciences relative to navigation—that is, mathematics, artillery, shipbuilding, and so forth.

The other schools are similar in their general arrangements. The so-called “Reading school” is a public college, or high-school, while the University, under the name of *Kai-sei-dshu*, is an institution arranged so as to include the study of literature, philosophy, history, and foreign languages. The students there learn, according to their choice and will, Latin, Greek (which two languages are taught by Japanese graduates of Dutch universities), Dutch, French, English, Portuguese, and other tongues, if there be present persons of other nationalities competent to teach their language. There is also in Jeddo a Chinese school, which, however, does not come under government inspection, but is a private undertaking of certain learned Chinese. It is largely attended by the Japanese, since a knowledge of the Chinese is indispensable to them, in so far as that language stands in the same relation to their mother-tongue as the Latin to the chief modern languages.

The remaining Japanese schools are the so-named Writing schools, under ecclesiastical management. They are simply elementary schools, called “*tera-koya*,” and are to be found in great numbers everywhere. The teachers in these institutions are denominated *tenarai disho*; and amongst them are women as well as men. Both sexes attend these schools, though the boys and girls are separated from each other. In these schools, too, there are no holidays, save on the 1st, the 15th, and the 28th of every month, which are festivals. Every day the pupils receive tasks, which have to be done at home. Every week there is an examination (or repetition of the instruction) made in writing.

In the government schools there are yearly two examinations. There is in these institutions no punishment, except temporary suspension and expulsion; but in private schools turbulent or idle pupils are

obliged to quit their seats and remain standing. During this punishment the culprit often dares not move, having given into his hands a lighted stick of a spongy kind of wood, which he has to hold without stirring, till it slowly burns down to his fingers—when he throws it away, and takes his seat again. In extreme cases, according to the length of the stick, this punishment lasts several hours. Sometimes the punishment is heightened by putting into the culprit's empty hand a vessel filled to the brim with water, and compelling him to hold it without spilling a drop of the water till the stick is burnt out.

There are also cases in which pupils are bound hand and foot to a chair, or beaten with bamboo or other rods—though these punishments must be held to be in general mild and humane in comparison to those to which pupils are subjected in the schools of other Asiatic countries, where a child is often bound with a common cord, pitilessly drawn up by the feet, and the barbarous bastinado inflicted on his naked soles in the cruelest manner, to the delight of his fellow-scholars, who frequently take an active part in the dreadful torture.

The Japanese language is extremely difficult to learn ; indeed it is one of the greatest and most invincible obstacles which foreign nations encounter in their intercourse with the inhabitants of Japan, who have lived so long and so rigorously secluded from the rest of the world. Its study has to be commenced in early years, and an extensive and thorough acquaintance with the proverbially difficult language of China is an indispensable prerequisite to a fair knowledge of Japanese. It is necessary, however, to distinguish between the spoken language of Japan, and that which is used only in literary composition. Of the former, the colloquial Japanese, as much as is needed for the common purposes of every-day life, can in a measure be acquired by routine and a prolonged stay among the people of that country. This is a far less arduous task than the acquisition of the incomparably more difficult language of the Japanese books. But even in this merely conversational tongue, we meet with many things which render the pupil's progress very slow, his final mastery of it very uncertain, and its study exceedingly tedious and discouraging. These difficulties affect its pronunciation, as well as its syntactical structure ; they apply, moreover, to its idiomatic peculiarities, and have an important relation to the intricate rules of Japanese etiquette and politeness.

The correct utterance of the Japanese sounds is by no means an easy matter. Thus the *g* and the *n* final are pronounced with a peculiar nasalization, especially the former ; *f* and *h* are not always distinct, there being a particular mode of uttering them which cannot be easily imitated by *our* vocal organs. There is also a sound which seems to fluctuate between *r* and *d*. The Japanese have no *l*, the *l*

in foreign words being uniformly expressed by *r*: when they pronounce English, they almost invariably say *right* for *light*; and *long* for *wrong*, etc. The Japanese language belongs to the class of agglutinative languages; and being in some remote degree related to the Ural-Altaic family, of which the Mantchoo, Mongolian, Turkish, etc., form a part, it shares with some of the languages of this class the construction which might be called a constant *inversion* of the mode and order in which we think. Thus, all those languages *begin* their sentences where we *end* ours, so that our thoughts really appear to them as inverted. Moreover, the word which describes or determines another has to precede it, so that not only, as in our language, the adjective comes to stand before the noun, but also the possessive or genitive case before the nominative, and the objective case before the verb. The principal verb always ends the whole sentence; and all other verbs that occur in the sentence are put in the form of a participle or gerundive, whereby the sense remains, in some measure, undetermined and suspended to the end of the period. Then, and then only, it can be seen, in a great many cases, whether the sentence is to be understood as relating to the present or the future; as affirmative or negative; whether a request has been granted or refused, or an offer accepted or rejected. The Japanese construction is, therefore, the very reverse of the syntactic order of the language of China. That most heterogeneous Chinese element which has almost submerged the genuine idiomatic nature of the Japanese language, although of a paramount importance to the student, is nevertheless a foreign intruder, somewhat similar to the abundant Romanic element in our purely Germanic English, or to the Hebrew-related Arabic in the purely Indo-European Persian and Hindustani.

Another great difficulty results from the extreme ceremoniousness and politeness of the Japanese. Thus, in speaking with any person (except a son or a servant), it is always of the greatest importance to choose expressions which show our respect for the individual we address, proportioned exactly to his rank or social standing. In speaking of absent persons, the same rule has to be strictly observed in regard to all the deference, honor, and respect to which such persons may be entitled. On the contrary, in speaking of one's self, it is always necessary to use expressions of great humility. This affects, in either case, the choice of the pronouns (of which there exist a great many different forms to serve all purposes), and the selection of an appropriate form of the verbs, different in the various moods and tenses. It affects likewise the declension of the nouns in the cases, the formation of the plural, and even the participles, and the whole quality, meaning, form, and nature of the words used in conversation. There exists, moreover, in Japanese, a large number of verbs that express nothing but manifestations of humility

and submission, or a display of courtesy and refined etiquette. When speaking of two persons at the same time, one of whom is much higher than the other, we have to add to the name of the latter both a particle of respect and one of humility, to indicate our respect for him, and also to show that a still greater honor is to be bestowed on the other person mentioned, on account of his superior condition and rank. Thus, to speak Japanese in a fairly correct manner, we have constantly to consider the person in whose presence we speak, the person to whom we speak, and the person of whom we speak, and this is often extended even to things or objects belonging to or sustaining any relation whatever to such persons. As to the written or book language, of which we may treat on some other occasion, it is fraught with so many and such inextricable difficulties, that Father Oyanguren declared it¹ to be "simply an artifice of the devil to keep the Gospel out of that country." In fact, the Bible has never yet been published in Japanese. A complete manuscript translation of the Scriptures, by the Rev. Mr. Brown, missionary at Yokuhama, was unfortunately consumed in a late conflagration in that city.

THE VENTILATION AND WARMING OF SCHOOL-HOUSES.

III.

ACCOMPANYING this article is a plan of a school-house now being erected at Orange, New Jersey.

The plan, though simple, presents some very good sanitary points. As will be seen, each class-room has two sides well exposed to light and air. No two class-rooms communicate directly with each other; and no attempt has been made to secure large assembly-rooms, by that objectionable plan so extensively employed in Brooklyn, Philadelphia, and other cities—namely, by dividing the large rooms into class-rooms by glass partitions, which, while allowing sufficient light to pass through, effectually cut off the flow of air. A spacious, well-lighted hall extends across the building. The closets and smaller rooms are placed, as they should be, next to the hall, so as not to obstruct the passage of air and light to the class-rooms. The Janitor's rooms are in the front part of the basement, on a level with the ground. The back part of the basement is used as a play-room. The first and second floors are used as class-

¹ "*Arte de la lengua Japona*;" Mexico, 1738

rooms. The third is finished as a large assembly-room, for exhibitions, and so forth.

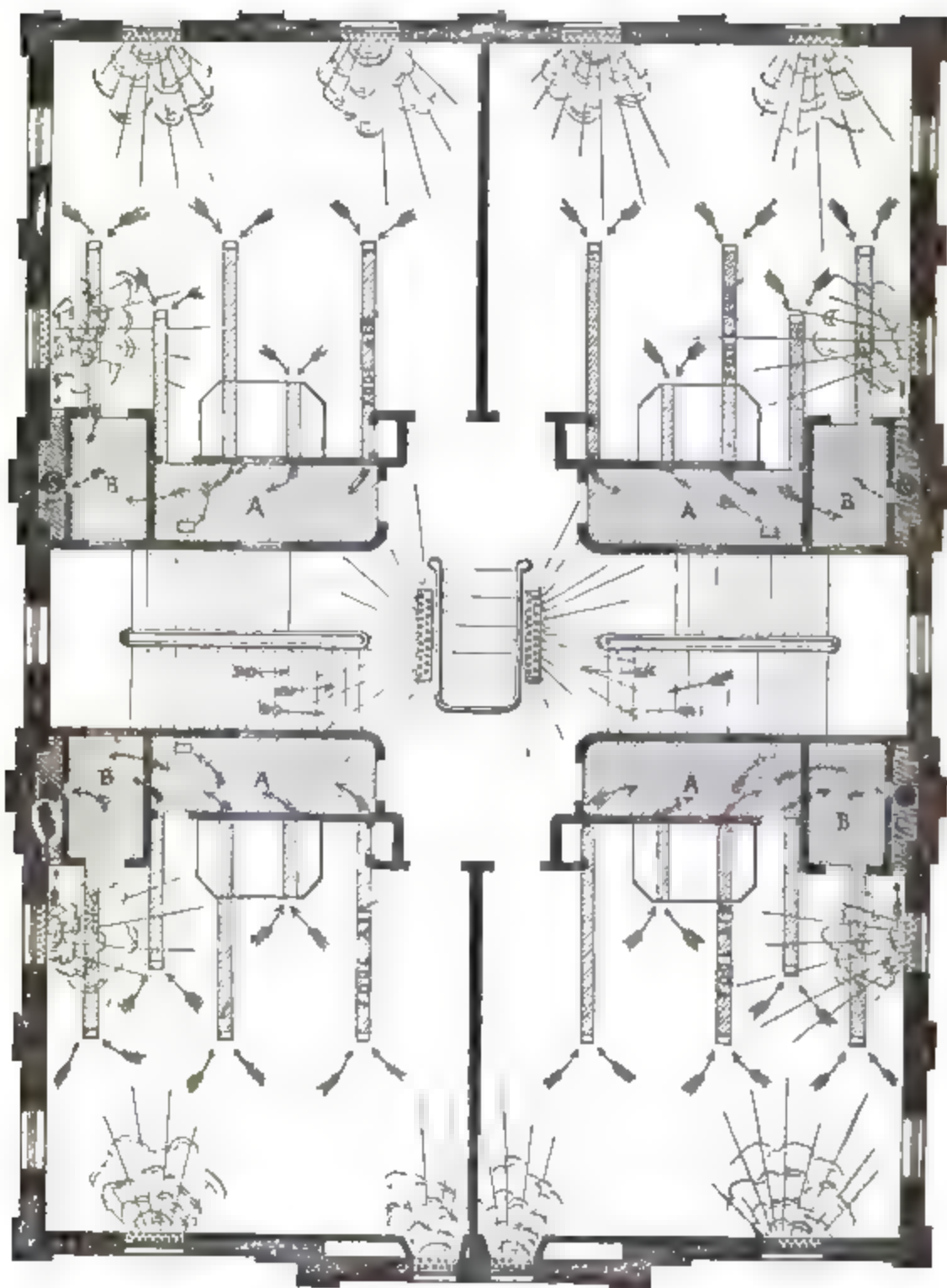
The building is to be warmed by low-pressure steam from a boiler in the cellar; the steam to be distributed to radiators placed on the colder sides of the rooms, and under the windows.

The ceiling of the play-room is to be furred down to form an air-chamber under the joists of the first story. Into this chamber are to be introduced a number of steam-pipes, which are intended to keep the floor constantly at about the temperature of the human body. This heating of the floors is yet so much a matter of experiment, and so contrary to the usual plan of keeping the head hot and the feet cold, that it may take some time to determine the most advantageous temperature. It is believed, however, that if the floors and walls are warmed just enough to prevent the loss of heat from the body to them by radiation, while cool air is supplied for breathing, it will prove entirely satisfactory.

The object of placing the steam-radiators in the rooms instead of in the cellar, as is frequently done, is to secure what is so necessary in every school-room, and indeed in every room occupied by human beings—namely, *direct radiation of heat*. The other extreme is guarded against; that is, of *heating the room only* (as is often done by direct radiation), without providing for a proper supply of fresh air.

A simple, yet, it is believed, a very efficient plan for securing fresh air, has been adopted. The steam-radiators in the class-rooms are placed directly under the windows, and over each radiator is a marble shelf which extends two or three inches above the bottom of the sash. By raising the window, there is allowed to flow in under the shelf a strong current of cold fresh air, which being heavier than the interior warm air, falls over the radiators so as to secure its warming and thorough diffusion through the room. Thus the supply of air is regulated by means familiar to every one—the opening and closing of the windows. It may be objected that if it is left to the casual opening and closing of a window, the supply of fresh air will be neglected; and that there ought to be made, for the admission of fresh air, an opening which could not be closed, no matter how much discomfort the incoming air might occasion to those sitting near such opening. We disagree with the theory altogether. We do not believe it necessary to be tortured or even inconvenienced in order to secure sufficient fresh air to make a room wholesome. On the contrary, ventilation should be so secured that it will be more agreeable to have fresh air constantly flowing in than to be without it. The general dread of draughts from windows is easily accounted for by the fact that our heating arrangements are almost always placed on the wrong side of the room. Generally the fresh air coming in at a window must flow entirely across the room before reaching the heating apparatus. Of course this

will cause the chilling of the feet of the occupants of the room,—producing much discomfort, and a just dislike to “the draught from a window.” It is quite a different matter when the draught is warmed as it enters the room, and its heat is supplemented by radiant heat.



PLAN OF SCHOOL-HOUSE (FIRST STORY), ORANGE, N. J.

References.

A. Wardrobe.
C. Ventilation Shaft.

B. Teachers' Room.
S. Stove.

This supply of radiation in each room greatly assists also in overcoming the difficulty, frequently experienced in buildings heated exclusively by hot air, occasioned by the varying currents of the external air: the rooms on one side sometimes getting all the warm air, while on the opposite side the rooms are cold. When the heating surfaces are placed on the outer or cold sides of each room, this can scarcely ever occur with any change in the direction or force of the wind.

The main hall of a school-building, as of most other buildings, is the grand ventilating shaft. Much depends, therefore, on its proper treatment. Under some circumstances, it is well to allow the halls to become the foul-air shaft, to relieve the class-rooms. In the building under review, however, ample provision being made for the removal of the foul air at numerous points in the floor and ceiling of each class-room, the opposite plan has been adopted, and the hall is made a grand reservoir for the supply of fresh air. Large radiators are placed under the windows at the foot of the basement stairs, for partially warming the current of air always rushing in at that point. At the head of the stairs are two other large radiators (shown in the plan) to warm still more the incoming current, and to heat the hall by direct radiation. Thus in very cold and windy weather, when it might not be pleasant to allow much air to flow over the heaters under the windows, an ample supply of partially warmed fresh air would be afforded by the hall; large transoms, with blinds always open, being placed over the doors for the passage of such air.

Co-ordinate with the supplying of fresh air is the removal of foul air. As shown on the plan, there are four large extracting shafts which begin in the basement and are enlarged at each story. A coil of steam-pipes at the bottom of each shaft will rarefy the air so as to cause a rapid upward current. In warm weather, when the heating apparatus is not required, a strong exhausting current may be kept up by a stove in two of the shafts with the pipe in the others.

To secure the best ventilation, it is necessary to draw the foul air from as many points in each class-room as possible; since the greater the diffusion of foul-air openings the less liability there will be of the accumulation of foul air in any portion of the room, or of inconvenience from draughts at any point.

The shaded flues on the plan represent foul-air ducts, made by using for that purpose the space between the joists. These ducts connect with large foul-air chambers formed by furring down two feet the ceiling of the wardrobes and teachers' rooms. These chambers communicate directly with the exhaust shafts. The foul air is thus drawn from the floor of each class-room at five points. The openings through the blinds of the wardrobe doors secure additional ventilation. Not so much air is taken from the ceiling; yet there are large registers leading from each class-

room directly into the exhaust flues ; and also from the ceiling of the wardrobes and teachers' rooms.

Thus the proper heating and ventilation of this building will not depend on the skilful management of complicated machinery, or the nice adjustment of dampers, in accordance with the ever-varying direction and force of the wind. But by simply keeping up the fire, the heat is distributed to all parts of the building, entirely uninfluenced by the currents of the outer air ; the foul air is constantly drawn off by the exhaust shafts, while a supply of partially heated fresh air is always flowing in at the windows or from the hall.

It may be argued by the casual observer that it might do well enough in large and expensive school-houses to make such thorough and ample arrangements for ventilation and warming ; but that it would not be justifiable in ordinary school-houses. The argument may be plausible, but it is entirely groundless. All the work indicated is quite inexpensive ; and if the necessary arrangements for securing ventilation are made before the building is begun, the additional expense will be but a small percentage of the cost of the building. Of course the extra fire, or fires, in the exhaust shafts will entail some little care and expense ; but it will be amply repaid by the increased health and vigor of both teachers and pupils.



FIRESIDE CULTURE.

OUR American homes have a great work to accomplish. No people, taken as a whole, have such an attachment to home ; none lay such an emphasis of generous pride and pleasure upon its advantages ; and none indulge in such an outlay of thought and money to obtain the very maximum of its comforts and joys. The passion for home is the chief strength of our civilization. It is growing, too, but not growing as wisely as it should ; for we are neglecting that domestic provision for the nurture of intellect, which, next to good morals, is the surest sign of a substantial civilization. In this respect we have degenerated. Our fathers read more, thought more, talked more about the fireside than we do, and thereby contributed more to the real progress of the age than we can boast of doing. Recently, however, a signal change has been exhibited. The demand for home reading has been increased, and as respects the class of publications designed to meet this specific want, never did such an abundance exist. Fireside culture is evidently increasing, and as this culture takes deeper root and spreads more widely around, we may safely calculate that social *fungi*, native or exotic, will be starved out of our prolific soil.—*Harper's Bazaar.*

JULY, 1869.

SCHOOL-BOOK CRITICISM.

A GAIN we devote a large amount of space to Worman's German Grammar,—this time taking it in connection with Otto's, of which it appears to be a blundering copy. We do this, not because the book is, in itself, worthy of so much attention, but because it is a specially good representative of a large class of American school-books, which, despite their worse than worthlessness, are “pushed” by publishers, praised by teachers, and worse yet, used by unsuspecting learners.

Our readers are aware that from the first there has existed an engagement on our part to furnish thorough, fearless, honest, and impartial reviews of school-books. In the discharge of this self-imposed duty, we have had frequent occasion to condemn bad books, to the great distress of authors and publishers, and not unfrequently of sympathetic teachers, also, who cannot see why we should go to the trouble of proving a bad book to be bad, when it is so much easier and pleasanter, and *more profitable* to do as others do,—load it with compliments and advise every teacher to buy it.

However just an unfavorable criticism may be, the author and publisher are almost certain to call it harsh and abusive. As the world goes, this is not surprising. But it is surprising that teachers—whose first interest should be for their pupils—should echo the cry of spite and cruelty, and charge every unfavorable criticism to malignity, the result of some quarrel between the reviewer and the reviewed, or some conflict of interest between rival publishers. That a book should be examined and judged according to its merit, with no thought of the author's feelings or the publisher's profits, is beyond their comprehension. There must be a motive ; and having no notion of motives other than pecuniary interest or friendship or spite, they unhesitatingly charge the review to one

or another of these, as may happen to suit their humor. Of the nature and object of honest criticism they seem to have but the vaguest conception. Indeed, accustomed as they are to pay the most slavish deference to authors and publishers, the great body of American teachers really deem it presumptuous, if not outrageous, to question the fitness of any book for any use,—and doubly so if the book comes from the mill of their personal friend, the distinguished author, Professor Makemfast, or their favorite publisher, “whose imprint is a guaranty of the excellence of any book.”

By nothing is the lack of genuine scholarship and genuine love of truth more strikingly manifested than by this ready suspicion of the justice and honesty of unfavorable criticism,—unless it be the chronic toadyism of the professional rabble to book-makers and publishers, developed by the long course of petty bribery and flattery administered by the latter. To judge from the publishers' circulars, it would seem that the gift of a fifty-cent book would buy the most grandiloquent “recommendation” from three teachers out of five; while the prospect of being published throughout the land as an “Eminent Instructor” or a “Leading Educator,” would seem to be an irresistible temptation to the fourth. And the same toadying spirit is carried into the professional literature, less now, we are happy to say, than formerly, yet it is still disgustingly common.

If the MONTHLY succeeds in its design to break up this state of affairs, and make periodicals—educational periodicals especially—afraid, if not ashamed to praise worthless school-books, we shall feel that it has not existed in vain.

THE NEW SCHOOL-BILL.

WE are not among those who believe, or profess to believe, that our public-school system is so perfect that it cannot be changed without detriment. With all its nobleness of scope and purpose, it falls far short of what we hope some day to see it. It needs extension and improvement; and extension and improvement imply change. We are, therefore, not opposed to change simply because it is change. But we are opposed to changes that go backward. With so many untried problems in education before us, it does not pay, to say the least, to spend our time on outworn experiments; especially when such experiments

have always resulted disastrously. Nor does it pay to surrender a well-tried and fundamental principle of a system without proof that something better will result. This we think our legislators have done.

We would be the last to insist on any bigoted restriction of effort, or rigid public committal to any system of school management, no matter how well founded it might seem to be. Indeed our conviction of the need of making wider and more varied experiments in education than have yet been known, would be more apt to carry us to the opposite extreme, and impel us to say God-speed to every conscientious person seeking to improve our means and methods of instruction, even though his views should be the very opposite to our own.

There is no feature of our public-school system that we should less like to see touched—save to make it more thorough—than its freedom from sectarian bias. Yet if, for the satisfaction of any body of our citizens, it had been fairly proposed to test the question of the desirableness of maintaining “a religious atmosphere” in the school-room, by establishing or aiding a number of sectarian schools side by side with a like number of unsectarian schools, all under proper supervision, to see which would yield the better fruit at the least public cost, we should have gladly sunk our prejudices and given the enterprise every aid in our power.

But such is not the nature of the innovation introduced by the bill passed by our late Legislature, providing for the support of free-schools not included in the public-school system. That assumes the one point which needs to be proved ; infringes without excuse or apology on the basic principle of our political system ; places in the hands of irresponsible persons large sums of money for disbursement, and hedges the public interest by no safeguards of inspection or supervision. As an experiment it can prove nothing, while by its studiously vague and underhand character it can scarcely fail to introduce a new element of jobbery and corruption into the already sadly corrupted administration of our educational affairs.

The only good that can be hoped for from it, is one that the instigators of the bill never thought of : it may allow our German citizens to leaven the public-school system with a little of the modern German spirit, and perhaps enable them to bring about the reforms which they have in contemplation, but which the prejudices of American teachers and school officers would never suffer to be fairly tried. We hope our German friends will take advantage of the opportunity thus thrown in their way.

EDUCATIONAL INTELLIGENCE.

THE next annual meeting of the NATIONAL TEACHERS' ASSOCIATION will be held in the city of Trenton, New Jersey, on the 17th, 18th, 19th, and 20th of August next. An invitation has been extended to the Association by the School Commissioners of Trenton, the members of the Common Council, the State Board of Education, and many prominent citizens ; and arrangements have been made to reduce to the smallest amount the expenses of the members in attendance. The customary reduction of railroad fare is also expected. THE NATIONAL ASSOCIATION OF SCHOOL SUPERINTENDENTS, and the NATIONAL NORMAL SCHOOL ASSOCIATION will hold their annual meetings in the same city, on the 16th and 17th. State, County, or City Associations of Teachers sending delegations, are requested to report the number of delegates to Prof. John S. Hart, Principal of the New Jersey Normal School, that arrangements may be made for their entertainment.

As we announced last month, the next meeting of the NEW YORK STATE TEACHERS' ASSOCIATION will be held at Ithaca, on the 27th, 28th, and 29th instant. The order of exercises, so far as made out, provides for addresses by the Rev. M. R. Vincent, of Troy ; the Hon. S. S. Ashley, Supt. Pub. Inst., North Carolina ; Waterhouse Hawkins, the Naturalist ; Asst. Supt. Kiddle, of this city ; Prof. Charles Davies ; Prof. Barton, of Amherst ; Prof. Sprague, of Cornell University ; Jerome Allen, Prin. Normal School, Monticello, Iowa ; J. W. Armstrong, of Oswego Normal School ; D. H. Cruttenden, and others. Papers are promised by Mr. T. W. Valentine, of Brooklyn, and ex-president J. W. Barker, of Buffalo, and Reports by M. P. Cavert, of Albany, S. G. Williams, of Ithaca, C. R. Abbot, of Kingston, D. J. Pratt, of Albany, and James Johonnot, of Deposit. The music will be in charge of Prof. Tillinghast. A generous welcome is promised to the members of the Association. The ladies will be entertained by citizens. The usual arrangements will be made for free return railroad tickets to members.

The *American Missionary*, for May, gives the following statistics of the schools established among the freed people of the South by the American Missionary Association. The number of scholars enrolled in the day-schools of the Association, April 1st, 1869, was 23,062, the daily attendance averaging 19,340. There were besides 3,957 pupils attending night-schools, and 21,869 in Sunday-schools. The 27,019 secular pupils were classed as follows : primarians 10,291 ; in intermediate departments 9,579 ; in grammar departments 2,866 ; in Normal classes 326. The number of teachers employed was 428, of whom 339 were women. "We are glad our force is so strong," says the *Missionary*, "but we find enlistment easier than payment. Our victories, like those of the nation, are followed by a debt. But we are confident that those who sustained the first war and now pay taxes cheerfully, will uphold us in this more peaceful warfare, and not suffer the grandest results of both struggles to be impeded for want of funds."

NOVA SCOTIA.—During the past four years, the school attendance of this province has been more than doubled. Equal if not greater improvement has been made in the general equipment of the schools in respect to books, maps, and other necessary apparatus; and also in matters pertaining to the internal management of the schools. This great reform is attributed by the Superintendent of the schools chiefly to the efforts of the county inspectors in developing a proper educational sentiment among the people, in establishing new schools, and by inspecting the work done in the school-rooms. The province has a population of about 380,000. In 1867 there were enrolled in the public schools 83,058 different pupils, of whom 61,718 were registered in the winter schools, and 70,075 in the summer schools. The average number in daily attendance was 35,092 in winter and 38,994 in summer. According to the provincial Journal of Education, it was to have been expected that this “extraordinary” attendance would have been seriously reduced in consequence of the distress which prevailed a year ago, and the monetary depression which characterized the whole of the past year. Official returns, however, show that the attendance of 1868 considerably surpassed that of 1867: the number registered the winter term being 65,083; the summer term 72,141; and the number of different pupils enrolled 88,707. What was the average daily attendance is not stated; and after all, that is the real test of the working condition of the schools—so far, at least, as figures can show it. Judging from the record of preceding years, it could not have exceeded half the enrolment. The number of teachers employed during 1867 was, in winter 1,261, in summer 1,459. The teachers’ salaries amounted to \$263,868. The total expenditure for school purposes was \$499,670, of which the Government provided \$145,280; the counties \$91,477. The remainder, \$262,913, was “raised by various sections.”

CHINA.—The Rev. John L. Nevius, for many years a missionary in China, thus describes in his “China and the Chinese” the method there pursued in elementary instruction.

“The manner in which the schools of China are conducted is peculiar, and worthy of special notice. The text-books are the Chinese classics, or elementary and preparatory books for beginners introductory to them. There is no occasion for the complaint so often heard with us, that the teacher wishes to introduce a new book, for theirs are nearly all two thousand years old, and few have any idea of their being changed for the next two thousand years. These books are all written in the book-language, as different from the vernacular as Latin is from English. Every word in this written language has its independent and arbitrary representative or symbol, so that there are as many different characters as there are words. The beginner, then, instead of learning an alphabet as with us, commences learning these characters or words separately, each of which has its own sound or name. The first object is to learn the name without any reference to the meaning. At first, perhaps, ten of them, more or less, are learned in a day. By degrees the pupil becomes familiar with the most common ones, and is then introduced to the Chinese classics—the sayings of Confucius, for instance. He learns a few for a lesson, the teacher giving to him the names of the characters which have not been met with before. No attention is yet given to the meaning.

The object is simply to become familiar with the names of the individual characters, and to commit the sentences to memory, just as a boy might be required to commit to memory a paragraph of Virgil, repeating every word accurately, without the slightest idea of the meaning or of the structure of the language. In this way, thousands of these arbitrary symbols are learned, and book after book committed to memory before the first attempt is made at explanation. Another feature, which is more singular, is that the pupils study out loud, and all separately, without being organized into classes. Each boy, after being helped in learning the names of the unfamiliar character in his task—which may be shorter or longer, a few sentences for the smaller boys, and a page for the larger—shouts it out from his desk at the top of his voice, over and over, until he can repeat it without looking on his book. I suppose the object or design of this singular custom is to make use both of the voice and the ear, in order to make a stronger impression on the memory. This method has the additional advantage," Mr. Nevius naively adds, "of keeping the boys at work better than they could be by a silent mental effort; of letting the teacher know when they are flagging (in which case he raps on his desk, and they burst out again in full chorus); of exercising and developing the lungs and vocal organs, and cultivating a habit of mental abstraction. In the course of a few years the teacher begins to explain the books which have been memorized. In the mean time, however, the pupil has almost unconsciously obtained a considerable insight into the language from its points of coincidence with his vernacular, and the hints which he has picked up from the conversations of teachers and advanced pupils. From the beginning lessons are taken every day in writing; first on transparent paper over a copy, afterward by imitation, commencing with large characters, and diminishing the size gradually. A fine hand is much admired; and as the characters are very numerous, and some of them very elaborate, it is common for persons to employ a portion of the time during their whole lifetime in improving their penmanship. When boys have reached the age of twelve or fourteen, they commence writing literary compositions. The style and character of these are determined by that which prevails in the literary examinations. The object is not to bring out any new ideas, but to follow in the track of the orthodox commentators, and observe strictly prescribed rules. The essays are a kind of literary mosaic, composed of ethical axioms, historical references, obscure allusions, and hints, poetical, biographical, and historical, with which their memories are stored; while they almost unconsciously fall into the style and forms of expression with which their minds have become familiar in the course of their *memoriter* studies. It will be readily seen, that the Chinese system of education, while it develops and stores the memory to an unprecedented extent, discourages and precludes all freedom of thought and originality."

We would hereby tender our thanks to (Ex) Commissioner Norris, of Ohio; State Superintendents Apgar of New Jersey, Hosford of Michigan, McVicar of Kansas; City Superintendents Philbrick of Boston, Leach of Providence, Sears of Newark, Hancock of Cincinnati, Harris of St. Louis, and others, who have favored us with their late reports. We shall give them early attention.

CURRENT PUBLICATIONS.

DR. HOPKINS' *Moral Science*,¹ we need hardly say, is a well-digested treatise by one of the foremost thinkers and scholars of the country. After an introduction of twenty-seven pages, in which the different theories of other writers are briefly noticed, the author proceeds to present his own views under the two heads of—I. Theoretical Morals, treating (1) of law, (2) of love, and (3) of the law of love; and II. Practical Morals, embracing duties (1) to ourselves, (2) to our fellow-men, and (3) to God. We are greatly mistaken if the work does not go far toward solving some of the problems which have from the first engaged the attention of ethical writers. It is a volume which, for the most part, requires close attention; yet we have found it one of absorbing interest. We commend it to the thoughtful and truth-loving. It may be used as well for private reading as for a text-book, for which it is mainly designed.

UNDER the somewhat fanciful title "*Chips from a German Workshop*," Max Müller some months ago republished, from various English periodicals, two volumes² of essays on the early religious thoughts of mankind and early customs and traditions. These books have now been added to the series of works on Language and Literature, published by Messrs. Scribner & Co. The first volume contains fifteen essays on the science of religion, treating chiefly of Brahmanism, Buddhism, and other Eastern Asiatic religions, and their sacred books. Volume II. contains twelve essays on Comparative Mythology, Folk-Love, Popular Tales, Manners and Customs, etc. These essays are all eminently readable, and, in the best sense of the word, instructive.

THE same publishers have issued a new edition of the life and letters of St. Paul.³ The entire text and all the notes of the complete London edition, together with the maps and illustrations, many of which are omitted in other editions, are given in this one volume precisely as in the two-volume edition issued by this firm, and at about one-half the price. The work needs no commendation of ours.

DR. ROBINSON'S excellent collection of hymns and tunes for Christian worship,⁴ comes to us in a revised form, adapted to the wants of Baptist churches. The changes, however, which the work has undergone are comparatively few, several hymns pertaining mainly to the institutions of the church, and three or four tunes, having been exchanged for others. The number and, with very few exceptions, the numbering of the hymns in the two editions are the same, so that the two books can very easily be used together. The present edition is very neatly printed on tinted paper. Externally, it is the same in appearance as the original work.

¹ *The Law of Love, and Love as a Law.* By Mark Hopkins, D. D., LL. D. New York: C. Scribner & Co. 16mo, pp. 342.

² *Chips from a German Workshop.* By Max Müller, M. A. Two volumes 12mo, cloth; pp. xxxiii., 374, 402. New York: C. Scribner & Co.; price, \$5.

³ *The Life and Epistles of St. Paul.* By W. J. Conybeare, M. A., and J. S. Howson, M. A.; two vols. in one. New York: C. Scribner & Co. 8vo, pp. 459, 556.

⁴ *Songs for the Sanctuary*; Baptist edition. New York: A. S. Barnes & Co.

IN his "Elocution and Oratory,"¹ Mr. Wiley gives, on some sixty pages, chiefly occupied by illustrative selections for practice, a very sensible summary of the principles of vocal culture, with a sufficient number of equally sensible rules for delivery. The chapter on Gesture is particularly noticeable for its common sense and freedom from the extravagance which so often makes text-books of Elocution ridiculous if not disgusting. The violent gymnastics and ranting which characterize the efforts of the lower order of professional elocutionists, and make them the least endurable of speakers, find no place in Mr. Wiley's instructions. The selections in prose and verse, which make up the greater part of the volume, are varied and generally well chosen: old and hackneyed the most of them are, it is true, to the old; but happily the oldest selections are to the young, just entering the field of literature, as fresh and inspiring as the newest.

THE salutary effects of music in the school-room have long been recognized. There, as elsewhere, an enlivening song is the speediest antidote for dulness or irritation. The physical effects of music are not less marked than its mental and moral effects. Proper vocal culture strengthens the respiratory organs, and thus guards them against disease. Habits of quick perception and fixed attention are cultivated in acquiring a knowledge of musical notation. And the sentiments of a good poem, wedded to good music, have the happiest effect on the young mind and heart. Mere singing by rote, as is commonly practised in school, is therefore a profitable as well as pleasant exercise. When properly supplemented by instruction in the elements of music, it is much more profitable, and not less pleasant. Believing that such instruction would be given more frequently, if teachers had at command a manual of elementary practice well adapted to meet the conditions of schools of the lower grades, the author of the "Diadem of School Songs"² has provided a department of Tune-form Practical Exercises, with directions for use, which will enable teachers, even if but little acquainted with music, to give instruction in musical notation successfully. These exercises (a new feature in works of this kind) fill forty-four pages. Then follows a series of "Little Songs for Little Singers," especially suited to primarians. Next follow "Day-school Songs;" and last, "Devotional Songs." Great care has been taken to have the poetry of the songs unexceptionable in style and sentiment. A novel feature, which will doubtless please the children, will be found in the illustrations that accompany a good many of the songs.

Harper & Brothers: THE MALAY ARCHIPELAGO. By ALFRED RUSSELL WALLACE. CROWN 8vo, cloth, \$3.50.—NOTES CRITICAL, EXPLANATORY, AND PRACTICAL, on the Book of Psalms. By ALBERT BARNES. Vols. II. and III., 12mo, cloth, \$1.50 a volume.—THE STUDENT'S OLD TESTAMENT HISTORY. By WILLIAM SMITH, LL. D. 12mo, cloth, \$2.—THE WEDDING-DAY IN ALL AGES AND COUNTRIES. By EDWARD J. WOOD. 12mo, cloth.

Brewer & Tileston: A DICTIONARY OF THE ENGLISH LANGUAGE. By JOSEPH E. WORCESTER, LL. D. Quarto, sheep, \$10.

C. Scribner & Co.: FOREIGN MISSIONS: their Relations and Claims. By RUFUS ANDERSON, D. LL. D.—WATERLOO: a Sequel to The "Conscript." From the French of ERCKMANN-CHATRIAN. 12mo, cloth, \$1.50.

¹ Elocution and Oratory. By Charles A. Wiley. New York: Clark & Maynard. 12mo, cloth, pp. 444.

² The Diadem of School Songs. By William Tillinghast. New York: J. W. Schermerhorn & Co. 60 cents.

THE NEW YORK TEACHER,
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AUGUST, 1869.

TECHNICAL EDUCATION IN EUROPE.

III.—BELGIUM.

WITH the exception of the industrial school of Ghent, and of the “Musée de l’Industrie,” which were founded under the Dutch Government, none of the present industrial educational institutions of Belgium existed prior to the Revolution of 1830; the great majority have been established at various intervals within the last twenty years. The “Ecoles d’Industrie” sprung up for the most part in the chief centres of industry, originating in the enterprise and foresight of individual manufacturers or of local authorities, and subsidized in all cases by communal or provincial funds, and in many by the State.

The “Ateliers d’Apprentissage,” a detailed description of which will be given later on, were originally established in 1841, with a view of relieving the distress into which the rapid decline of the linen industry of Flanders had plunged the working population of those provinces, of giving a more extended and diversified character to their labor, and of encouraging an improved system of manufacture by the supply of new machinery and of competent teachers, and by furnishing the indigent with raw materials, free of cost. Large subsidies were voted by the Chambers in furtherance of these objects, and the “Ateliers” in this their earlier phase were not only instrumental in mitigating the general pauperism and distress which prevailed, but they also contributed largely to revive the industrial energies of the working-classes.

The appeals which were made to the Belgian Government to contribute toward the support of the “Ecoles Industrielles,” induced them to issue a commission of inquiry into their general organization, and into the influence which they exercised upon the industry of the districts in which

they were situated. The result of this inquiry was the reorganization, in 1860 and 1861, of the whole system of industrial and technical education, both "Ecoles Industrielles" and "Ateliers d'Apprentissage" being placed under Government supervision, with such uniformity in the regulations as was found to be compatible with the requirements of the different branches of industry prevalent in each locality. The State contributing henceforth to the support of all the schools and "Ateliers," without exception, assumed a direct supervision and control over them in conjunction with the communal and provincial authorities.

The establishments existing in Belgium for purposes of industrial or technical education are divided, as indicated above, into two distinct classes, the "Ecoles Industrielles," and the "Ateliers d'Apprentissage." In the former a higher standard of instruction is given, both theoretical and practical, in various branches of industry; in the latter, which are peculiar to the two Flanders, the instruction is exclusively practical and devoted to the purpose of creating skilful artisans in one particular branch—namely, the weaving trade, which still continues to be the staple of the once famous industry of those provinces.

The "Musée de l'Industrie" at Brussels and the "Ecole Industrielle des Mines du Hainaut" must be classed, at all events the latter, in a category distinct from either of the two above-mentioned. The "Ecole Industrielle des Mines du Hainaut" is a kind of industrial college, not, as its name would imply, exclusively devoted to metallurgy, but affording a superior class of instruction in various industries. The "Institut Supérieur du Commerce" at Antwerp, though included in the ministerial report, is a purely commercial college.

The "Ecoles Industrielles," fourteen in number, including in the list the Musée d'Industrie at Brussels, are situated at Bruges, Courtrai, Ghent, Charleroi, les deux Houdeng, Soignies, Tournay, Liège, Huy, Seraing, Verviers, Hasselt, and Namur.

Although the principles upon which these schools are organized and the course of professional instruction which they give vary according to the special necessities of each locality, there are certain general rules and heads of instruction which are common to them all.

The general course of instruction common to all the industrial schools comprises:—Mathematics and mechanics, in so far as they bear upon industrial science, linear and ornamental drawing, physics, general and practical chemistry, varying in each school according to the industries which it is more especially intended to promote. The other heads of instruction comprise the elements of mineralogy, technical drawing—with a special view to the manufacture of stuffs, carpets, and so forth, and to the construction of machinery—the elements of metallurgy, the art of mining, a theoretical and practical study of the various processes of textile

manufactures, and, in some cases, the mechanism and management of steam-engines.

With the exception of the "Institut Supérieur du Commerce," the education is given at these schools entirely free of cost to the students. The course of instruction varies from two to four years, but it usually occupies three. In nearly all cases it is accompanied by participation in actual processes of manufacture, more especially of textile manufacture. The qualifications required for admission are, that the pupil be above the age of 14, or in some instances of 12, and that he possesses that rudimentary knowledge which is to be acquired in the upper classes of the primary schools, or in the preparatory schools or evening classes which are attached for the purpose to many of the "Ecoles Industrielles." Every candidate for admission has to undergo a pass-examination before a board composed of the director and professors of the school; those who fail to pass are allowed to frequent the preparatory school or evening classes until they have acquired the necessary degree of proficiency. The examinations are both written and oral.

As a general rule only male students are admitted to the "Ecoles Industrielles," but girls are allowed to attend the drawing-classes, and the lessons given in the use of the sewing-machine and in photography at the school of Ghent. In Brussels there is a professional school expressly for girls, which is subsidized by the State, and there are certain of the "Ateliers" in Flanders where girls receive both primary and technical education. All students admitted to the schools are required to undergo an examination at the end of each scholastic year, to qualify them for entering upon the course of instruction of the ensuing year. They are also subjected to an examination on leaving the school, in presence of a jury appointed by the managing board, and such as are successful receive a certificate of capacity varying in its terms according to the degree of proficiency shown by the student.

The school-buildings are provided and maintained by the communal authorities. The funds required for the annual support of the schools are derived from three sources, the commune or municipality, the province, and the State. The latter contributes about one-half.

With the exception of the school of mines and manufactures attached to the Catholic University, and what are called "écoles dentellières" in Flanders, where little girls are taught lace-making in addition to reading and writing, there are no industrial schools in Belgium which do not receive aid from the State.

The management of each school is vested in the hands of a "commission administrative," or board of management of six or nine members, one-third of whom are appointed by the Communal Council, a third by the Permanent Committee ("Deputation Permanente") of the Provincial

Council, and the remainder by the Minister of the Interior. In some instances the right of nomination is divided equally between the Communal Council and the Government. The director, professors or teachers, and overseers of the schools are usually appointed by the Communal Council, subject to the approval of the Ministry of the Interior. In some schools the appointments are made directly by the Government on the recommendation of the "commission administrative." The members of this commission, or a portion of them, vacate their seats every two or three years, but they are re-eligible. Their duties consist in regulating the internal management of the school, subject to the sanction of the Communal Council, in fixing the hours of instruction, and exercising, in fine, a general superintendence over the discipline and course of studies, and also in ascertaining from time to time, by personal inspection, that the regulations are strictly carried out. The director and professors meet in council at the end of each scholastic year, and draw up a report upon the condition of the school, addressed to the Communal Council, and transmitted by the latter to the Minister of the Interior. They have no power to vary in any way the course or hours of instruction prescribed by the administrative commission, nor have they any concern whatever with the religion of the pupils, but they can enforce moral discipline and observance of the regulations, when necessary, by the temporary and even permanent exclusion of those who infringe them. Permanent exclusion, however, must be sanctioned by the administrative commission.

The professors at the "Ecoles Industrielles" are in general selected from the Universities, or from the professional divisions of the "Athénées" or public schools. They are required to have passed an examination and to have received a "diplôme scientifique," or degree certifying to their scholastic acquirements; others are chosen from amongst students upon whom diplomas have been conferred at the "écoles spéciales" attached to the State Universities, or from engineers in actual employment at industrial establishments.

The classes at most of the schools are held in the evening, when the workshops are closed, and when all those employed in daily labor have leisure to attend; in some localities, however, there are day classes, particularly on Sundays. No students are lodged or boarded in any of the industrial schools in Belgium. The total number of students frequenting these schools during 1866, was 3,814. The most important of the "Ecoles Industrielles" establishments is undoubtedly that of Ghent. It was founded when Belgium was still annexed to Holland, but its importance is of much later date. In 1860, when the whole system of industrial education in Belgium was reorganized and placed under Government control, the school of Ghent was amalgamated with a special school of industrial drawing and weaving, which had been established in the

same locality in 1852 for training expert draftsmen and weavers. The course of instruction lasts four years, and is so framed as to enable the pupils within that period to obtain a thorough knowledge of chemistry in its application to industry, of the mechanical arts, of the science of textile manufacture, or of drawing for industrial purposes, according to the particular branch of industry they may wish to adopt.

The first year of instruction includes mathematics, descriptive geometry, linear and ornamental drawing, and book-keeping. The second year, mathematics, physics, mechanics, drawing of machinery, and ornamental drawing. The third year, mechanics, chemistry, spinning, weaving, the motive powers of steam, drawing and plans of machinery, ornamental drawing, and composition. The fourth year, chemical technology, dyeing, bleaching, printing, practical weaving, the analyzation of samples, ornamental drawing in its application to industry, and industrial economy. A class for steam machinery is attached to the school, for the special purpose of practically instructing engineers and engine-drivers in those branches of physical and mechanical science which are necessary for the proper exercise of their calling. Instruction is given both in the French and the Flemish language, and the average number of students in the year is about 900.

The following is a statement of the number of students who attended the general course, as well as those who attended the special courses of instruction at the School of Ghent, during the year 1866, inclusive of those who attended them, or part of them, without being actually entered as pupils :—

General course of instruction, Flemish, 522, French, 235; Sunday drawing-lessons, deducting those who attended other classes, 93; evening drawing-lessons, 108; industrial drawing, daytime, 8, evening, 21; preparatory drawing, 23; weaving and spinning, 46; stokers' course, 30; photography, 59; girls' drawing-lessons, 14; lessons in the use of the sewing-machine, 118: total, 1,277.

The ages and trades or professions of the 757 students attending the general course, were as follows :—

FLEMISH CLASSES.

<i>Age.</i>	<i>Number.</i>	<i>Trade or Profession.</i>	<i>Number.</i>
From 14 to 17	301	Fitters ("ajusteurs")	68
" 18 to 20	111	Turners in iron	28
" 21 to 25	39	Mechanicians	27
" 24 to 26	35	Smiths and locksmiths	84
" 27 to 30	16	Stokers	8
Over 30	20	Carpenters and cabinet-makers	66
		Various	223
		No particular trade	18

FRENCH CLASSES.

<i>Age.</i>	<i>Number.</i>	<i>Trade or Profession.</i>	<i>Number.</i>
From 14 to 17 . . .	105	Manufacturers' clerks . . .	51
" 18 to 20 . . .	57	Draughtsmen (mechanicians) . . .	10
" 21 to 23 . . .	38	Fitters (" <i>ajusteurs</i> ") . . .	2
" 24 to 26 . . .	19	Students . . .	49
" 27 to 30 . . .	7	Schoolmasters . . .	5
Over 30 . . .	9	Various . . .	98
		No profession . . .	26

The teaching body consists of eight professors, including the director, and two assistant professors. An industrial museum and a library, well stocked with the best works and periodicals on every subject connected with industry in all its branches, with a reading-room attached to it, are annexed to the school. The reading-room is much frequented by the working-classes. The number of books borrowed during the year 1866, amounted to 2,490, exclusively relating to science and industry. The annual cost of this school is about 28,000 francs, two-thirds of which are contributed by the Government, and the remainder by the town of Ghent.

The Minister of the Interior, in his report, points out the beneficial influence which this particular school has exercised upon the town of Ghent, and upon its industry in general, and also to the successful career which it has opened to many of its pupils, who have become foremen or overseers, managers, and heads of industrial establishments. He attributes the introduction of new local industries to the special education which artisan pupils have obtained at the school.

The "*ateliers d'apprentissage*" of Flanders form, as already stated, a distinct and lower group of technical schools, or rather workshops, established exclusively for the improvement of the textile industries of those provinces, by training skilled apprentices. There are at present sixty-eight of these ateliers in the two Flanders, giving practical instruction and salaried employment to 1,857 apprentices and operatives in the various processes of weaving.

The distinctive features of the "*ateliers d'apprentissage*" are, that they combine primary education with technical teaching, and that the apprentices who frequent them, at the same time that they learn their craft, receive also the wages of their labor, according to the degree of proficiency which they have attained. The apprentices and operatives employed in them work entirely for the manufacturers of the neighborhood, who supply the raw materials and pay the wages.

The hours of labor are limited to twelve as a maximum, and two of these are devoted to primary instruction by the communal schoolmaster. The apprentices are taught reading and writing, and the rudiments of

arithmetic. No pupil is allowed to frequent the "atelier" under 12 years of age, but exceptions to this rule are occasionally made in favor of those who have already received primary instruction. The parents of apprentices who are in easy circumstances may be called upon to pay a premium, the amount of which is fixed by the administrative commission. The latter is charged with the direction and management of the "ateliers," and its members are appointed, on the recommendation of the communal authorities, by the governor of the province, for three years.

The technical instruction given in the "ateliers" is placed under the control of intelligent foremen (appointed by the administrative commissions), who are required to prove, in addition to a knowledge of reading, writing, and arithmetic, their ability to instruct the apprentices in all the theoretical and practical details of the industry taught in the "atelier," more especially in setting up looms, and so forth. The wages of apprentices working in these establishments vary from 35 centimes to 1 franc a day; the skilled workmen earn from 1 franc 70 cents. to 2 francs a day, or even more. Such of the apprentices who have distinguished themselves by their skill and good behavior, receive on leaving the "atelier," a present in money, to assist them in the purchase of necessary and improved materials for exercising their industry at home.

The annual cost of maintaining the sixty-eight "ateliers d'apprentissage," about 90,000 francs, is defrayed, as in the case of the "écoles industrielles," by the commune, the province, and the Government.

The benefits which these institutions have conferred and are conferring upon the working population of Flanders, as regards their material prosperity in resuscitating a decayed industry, and in opening a career of remunerative labor to all who are willing to avail themselves of the opportunity placed within their reach, whilst teaching them at the same time early habits of discipline and order, are incontestible. On the general and larger question of the advantages resulting from the whole system of industrial and technical education in Belgium, in promoting or extending the manufactures of the country, it is hardly possible as yet to speak with any degree of certainty. The real importance of the system dates only from its reorganization under Government control in 1861, and sufficient time has not yet elapsed to test its efficacy in that direction. That it encourages elementary education, however, is obvious, for the possession of a fair amount of elementary knowledge is made an indispensable qualification for admission to the "écoles industrielles," and in the case of the "ateliers d'apprentissage" primary instruction is in all cases associated with professional teaching. The employers of labor appear to be fully alive to the benefits which must eventually result from a well-organized system of industrial education, but the working-classes generally show but little eagerness to send their children to the schools.

BARRING OUT.**II.**

SUCH were our plans; and they were by no means feebly executed. At 9 o'clock the boys ascended gravely and silently to their dormitory. The usher waited, walking up and down the room, until he saw us all undressed and in bed. He then took away the candle, locked the door, and left us, as he thought, quietly settled for the night. No sooner were his footsteps heard on the landing-place of the stairs, than every boy leaped from his bed. It was a moonlight night, and there were neither shutters nor curtains to our windows; so we had abundance of light for our operations. In a few minutes each boy was completely dressed—the bolt of the lock was silently forced back with tools we had prepared for the purpose—the little boys were quietly slipped outside, and our provisions as noiselessly introduced—a few of the larger boys were let in from an adjoining dormitory, out of which they had escaped by the same means as we had opened our door. Mattresses, three deep, were crammed against the door, and beds were dragged into the vicinity of the entrance to prop them up; and when all these preparations were completed, the pistols were carefully loaded with handfuls of sparrow-hail, and we gravely assured each other that, though we were most anxious to avoid taking away man's life, yet, if attacked, we would defend ourselves and our rights to the last drop of our blood!

“Well now, this *is* what I call fun?” shouted one of the boys at the top of his voice, wholly unable to contain himself. We had scarcely slept for a fortnight before, in anticipation of this very hour; and now it was come at last. We could hold no longer, and we burst out into a ringing cheer!

“Strike home, boys, for your lives!” shouted the leader of the party, the moment his voice could be heard. In an instant a dozen hammers were dashed against the heads of a dozen enormous nails, and the door was made as secure as iron spikes could possibly fasten it.

“Up with the mattresses against the door,” again shouted our leader. “Let three rows of bedsteads be put against them; nail the bedsteads firmly to the floor so that they cannot possibly be pushed in, and let two of our steadiest hands lie down under the bedsteads close to the door with their pistols cocked, and be ready to fire when I give the signal.”

These orders were immediately obeyed; and in less than five minutes we were all quiet again, trembling and panting with excitement, but ready for instant action at the word of our leader.

Scarcely half a minute had elapsed after our preparations were completed, when we heard the step of the usher—startled by the noise of the hammers above—hastily ascending the staircase. He could almost have heard our hearts beating within, if he had listened. He applied the key to the door, but the keyhole had been tightly plugged.

“Let me in,” said he, in a trembling voice.

“Not until we obtain our rights,” returned our leader in a firm, steady tone.

“Boys, this is dreadful work,” replied the usher; “I beseech of you to let me in. Let us talk a little over this matter, before I call the doctor. I will speak to him myself in your favor—and, perhaps, something might be done.”

“Never,” cried our leader. “Never, until we obtain our rights; we have tried fair means long enough. We will not open the door unless the holidays are at once restored.”

The usher perceived in a moment that a rebellion—which for some time past he had half suspected was brewing—had now openly broken out. The rebels had taken the field; so he attempted no further parley, but instantly went off and reported the case to the doctor.

We had no means of knowing the precise effect produced upon the really amiable and excellent doctor by the sudden announcement of his assistant; but I believe it was a very painful one. I think he had some reason to doubt whether the course he had adopted was the most judicious; but, having so far pledged himself, he now felt bound to adhere to it. He told me afterward, that he had long suspected some serious mischief was being concocted, from the manner in which the boys collected in little knots, and dispersed as soon as he appeared; but he had no idea whatever that so formidable a rebellion was on the point of breaking out in the school.

The doctor, however, was by no means deficient in personal courage or pluck; so he summoned the gardener, whom he directed to arm himself with a heavy hatchet. The porter, Ned Grimes, was not long in putting in an appearance with an iron crowbar in his hand; and all three came steadily up the staircase. A loud knock was heard at the door of the dormitory. We all knew perfectly well that the doctor himself was outside; no one made any reply.

“Boys,” said the doctor calmly, “I fear you are acting very unwisely. I presume you are what you call ‘barring out;’ but you must know, upon calm reflection, that such an attempt is perfectly futile; I have men beside me with hatchets and iron crowbars who can force in the door in a moment. If you open it now quietly I will endeavor to forget what has happened; and perhaps we may be able to make arrangements for the future which will satisfy all parties. If you refuse, I will have the door

instantly broken open by force, and you may then take the consequences of your folly."

If the doctor had stopped at the conclusion of his first sentence, and had waited for an answer to his appeal—no matter what his ultimate determination to force his way in might be—I believe it was not unlikely the door would have been opened to him on the spot, as, although we were deeply irritated, we all bore feelings toward him of personal respect and regard. But his threat of breaking open our door so easily, with his hatchets and iron crowbars, which we had taken such pains to barricade, and which we now believed to be as impregnable as the rock of Gibraltar, wounded our pride and aroused our anger. Our better feelings were driven back, and we determined on "no surrender."

"No surrender!" "no surrender!" ran in a whisper round the room.

"Sir," said our leader, respectfully, "we mean you no harm, and we bear you no ill-will; but we consider we have been unjustly deprived of our rights; our holidays have been stopped. We cannot, and will not surrender unless you promise to restore them to us."

"Break in the door!" cried the doctor to his men. Hitherto he had kept his temper well, but now he had evidently lost it—and no wonder.

"Look to yourselves outside," shouted our leader; "we have firearms, and we will use them."

With a single stroke of his heavy hatchet the gardener smashed to pieces the lower panel of the door, while Ned Grimes—who knew the boys thoroughly, and saw we were bent on mischief—dashed his crowbar into the opening, and endeavored to wrench the door off its hinges.

"Smash it all to bits!" shouted Ned at the top of his voice, as he worked with a will at the heavy crowbar; and thoroughly enjoying the fun, made the door creak with his exertions. "We'll show the young gentlemen for once in their lives what a man can do when he goes at it!"

Again another stroke of the heavy hatchet sent the second panel flying in splinters against the mattress; and then the steady voice of our leader was heard, as he said distinctly:

"Give them the sparrow-hail in the legs: maybe the shower will be a little too hot for them—fire!"

Bang went one of the pistols right through the opening which the gardener had made in the panel. Ned leaped high in the air, and, with a loud scream, sent the crowbar flying from his hands. A dead silence ensued. The awful sound of firearms in such a place, discharged in real anger, produced an overwhelming effect. But the silence was only momentary. A tremendous scuffle was soon heard upon the stairs as of persons hurrying away,—the hatchet was dashed loosely against the door,—the crowbar fell with a crash upon the boards; and the gardener,

wildly shouting "Murder!" "Murder!" (as he saw the blood oozing through Ned's stockings), rushed past the doctor down the stairs.

"Give it to him in the back of his calves!" shouted our leader; and another volley of sparrow-hail took the gardener behind, and tumbled him head-foremost down the first flight of the stairs.

Ned Grimes, who, though startled at first, was really as stout as a lion, refused to budge an inch, and muttering in a voice of his own, which we all knew perfectly well, he growled out—

"Well, no matter; my shins won't forget ye for some time to come, I'm thinking; but see if I don't make the bones of every one of ye sore enough for this job yet."

A roar of laughter from inside followed Ned's threat; in fact it was a great relief to us all, as we were by no means certain that, in the excitement of the moment, we had not killed one or other of the party on the stairs. Ned was going to lift the crowbar—though his legs were full of sparrow-hail—and to set to work again at the door; but the doctor told him to desist; and it was with no small feelings of gratification that we heard them both go down the stairs. The gardener picked himself up as well as he could, shouting "Murder!" until he reached the bottom flight, and, probably, for some time after.

But the events of the night were not yet over. No doubt we had repelled the first attack with considerable loss to the enemy, and we heartily congratulated each other on our success. Hands were warmly shaken, and we renewed our protestations to stand by each other to the last. But we did not forget our defences; the bedsteads were removed in a twinkling—fresh boards, wrenched from the backs of spare bedsteads, were nailed across the breaches the enemy had made with the hatchet—the mattresses were placed anew against the panels, so that we could fire from behind them while they would stop any fire from the enemy; and, replacing the bedsteads, firmly nailed to the floor again, we awaited in anxiety any further attempts upon our citadel.

We did not wait long. The gardener upon a close examination of the calves of his legs, found that the hail, although exceedingly painful, and smarting him much at the time, had only entered skin-deep, fired as it was from an overcharged and short-barrelled pistol. Moreover, he was somewhat twitted by Ned for his hasty and inglorious retreat. So, resolving to recover if he could his character for courage, he commenced, along with Ned, reconnoitring the premises, in the hope—if they could manage it safely—of renewing the attack upon the door. They accordingly procured a high barrel with one end open, which, with some difficulty, they carried to the top of the landing. We could not conceive what they were about, as we heard them laboriously rolling the barrel up stairs. But they soon let us know their plan; for, standing inside the

barrel, so as to completely ward off our shot from their legs, they again smashed in our defences like egg-shells, and Ned Grimes began, once more, to apply his crowbar to the door ; but a fresh discharge made him drop the weapon as if it were red-hot iron, and sent him and his companions again growling away. Our marksmen had perceived "the dodge" of the barrel, and, aiming a little above its topmost rim, had peppered their hands and sides, instead of their legs, as before.

During the whole of that eventful night repeated skirmishes took place between the besiegers and besieged. The engagement had now become general, and we kept up a continuous fire upon the enemy the moment we heard footsteps upon the landing. At length the attack was abandoned, and the enemy seemed content to abide the result, and endeavor to starve us out.

It is all very well to look back upon this and call it a mere boyish frolic ; but, in truth, it was fast assuming a very serious aspect, and both parties, beginning to feel that the contest was of doubtful issue, exerted their energies accordingly. Having silenced the attack at the door, and placed sentinels with cocked pistols in their hands—giving them stringent orders to fire forthwith through the broken panels the moment they heard footsteps upon the landing—we now turned our attention to the means of a lengthened resistance. In doing so, we found to our dismay that water was the only article in which we were really deficient. All washing was immediately prohibited ; water and beer were served out to the garrison, duly measured, and only in as small quantities as was consistent with the quenching of natural thirst. Of provisions we had abundance, for at least a fortnight or three weeks ; but the water we calculated could scarcely hold out three days. We made the best of the matter, however ; and taking care always to keep sentinels at the door and windows, and at every point where a sudden attack could possibly be made, we endeavored to pass the time in a jolly, idle way. Lessons of course we had none ; and that, at least, was something gained. Books had not been taken into account in laying in our stores, so jokes, and jibes, and plans, and anticipations for the future held sway among us. But it was very plain to each of us, though not admitted by any, that anxious thoughts and perplexing doubts as to how all this wild work would end, rendered it, in our inmost thoughts, very bad "fun" indeed.

The doctor had retired from the contest immediately after the first repulse ; but, having gone to consult the Sovereign (as he was called) of the town of Armagh and some of the other magistrates, it was resolved to apply for the military to quell the riot which the "college boys" had raised. A requisition was accordingly sent to the officer in command for a company of soldiers, the mere appearance of whom it was supposed would terrify us into submission ; but the commanding officer had a

keener knowledge of human nature than either the doctor or the Sovereign, and on learning the nature of the duty for which the soldiers were required, he positively refused to furnish them. "Those young scamps," he promptly replied, "will fire their sparrow-hail into the men's faces, and put out the eyes of half the regiment, whereas, you well know, I can neither run away nor return their fire. I will take upon myself the responsibility of positively refusing soldiers for such a duty or endeavoring to frighten those young scape-graces; and, moreover, I tell you plainly they would only laugh at such an idea, and perhaps commence to fire bullets, instead of sparrow-hail, at my men."

The officer was not far wrong in his estimate of the probable conduct of the rebel forces.

The excitement of the first night's attack, and the arrangements of the following day, had kept us all employed both in mind and body; but no attack having been made during the course of the second night, and being left during the following day entirely to our own resources, it may well be supposed that time began to hang heavily on the hands of four-and-twenty boys—shut up in one room, and "with no fighting to keep them alive." As to books, I have already stated we had none; and even had we such, reading was out of the question. We amused ourselves, therefore, by tormenting every person who passed along the road—which our dormitory completely commanded—leading into the town of Armagh. Some of the boys who were adepts in the art of slang, kept up a constant fire of that weapon of annoyance upon every one, high or low, whose avocations compelled them to pass along that road. The passengers at last became justly irritated at this very doubtful species of fun; and some of them, of the lower sort, began to pelt us with stones as we leaned out of the open windows. A council of war was immediately held to consider what should be done to the stone-throwers; and the majority were of opinion that we owed it to our dignity to fire upon any one who assaulted us. Accordingly, the next volley of stones hurled against us by the indignant passengers was returned with interest from the dormitories, and a shower of sparrow-hail fell thickly around the assailants. In a short time a rumor ran through the town "that the college boys were firing on the people, and had shot several of them as they went to market." It must be admitted that the rumor was partially true; as, though the sparrow-hail did not do much damage at the distance from which we fired, yet it was rather startling; and the stoutest among the crowd by no means liked to see a pistol fired right at him, followed immediately by a shower of small shot around his person.

The contest between the passengers and ourselves soon became so vigorous that a complete blockade took place at that entrance into the town. It happened to be market-day; and, having voted that every one

who passed the road must necessarily be our enemy, we fired promiscuously at all, no matter what their calling might be. There were many respectable people, who, although they saw the crowd, and heard upon inquiry that "the college boys were firing on the people," yet could not bring themselves to believe that there was really any danger. And, accordingly, pushing their way through the crowd, they walked gravely past across the now unoccupied space opposite the college windows. But the delight of the boys was to undeceive these unsuspecting innocents, and no sooner had they attempted to "run the blockade," than three or four pistol-shots, fired in quick succession, and accompanied by a shower of small shot falling around them, immediately dispelled their illusion. There was something irresistibly ludicrous in seeing persons walk gravely into the open space, with a defiant air, as if "they would like to see who would touch them;" and then, when the volley came from the college boys, and the shot began to fall thick around them, draw their coat up about their ears, and rush past, amidst roars of laughter, not only from us, but also from the crowd of lookers-on.

An incident occurred in the course of the second night, which contributed to afford us some amusement. The gardener managed to send up a letter to the boys, stating that he was sorry he had gone against us in the beginning, and that he would prove the sincerity of his repentance by supplying us with water, if we would lower down a vessel. Water was the only thing of which we stood in need; we therefore broke a hole in the floor over one of the dormitories below, so as to let down the vessel which the gardener promised to fill. We had our suspicions, however, and did not quite trust his good faith. So we placed guards over the hole with cocked pistols, to be ready for action if occasion arose. The moment we let down our vessel, the gardener made a tug at the rope, and endeavored to snatch it out of our hands, but the guards were too quick for him, and a shower of sparrow-hail, fired right down upon his head and hands, sent him off again howling with pain.

At length on the third day we became seriously in want of water; and, though we scarcely confessed it to ourselves or each other, yet we certainly began to wish that some compromise could be effected. While these thoughts were anxiously passing through our minds, the Sovereign of the town appeared opposite our windows, with a flag of truce in the form of a white handkerchief in his hand, and asked us could he be the medium of any communication with the doctor.

We replied that if our rights were granted, we would submit immediately.

"But," said he, "what punishment do you expect for the outrageous proceedings of the last three days? You cannot suppose that such conduct can be passed over by the doctor?"

We replied that he might do as he pleased as to punishment, but that we would never yield our rights.

“Well,” returned the Sovereign, “I come authorized to make a proposition: the doctor cannot pass over what has happened; but if you will now surrender at discretion, and submit every one of you to be well flogged, and leave the question of the holidays to the doctor himself and his own kindness of feeling toward you, I will guarantee that none of you shall be expelled, or any further punishment inflicted for conduct that, if pressed against you, would send every one of you to jail, and probably to the tread-mill.”

The idea of being sent to the tread-mill for our pranks had never, strange to say, occurred to any of us, and it now alarmed us not a little. So we asked for an hour to consider, and this having been granted, we retired to discuss the terms which had been offered. Much angry altercation followed. Some were for holding out to the last. Others thought the doctor would never give in about the holidays, and that the present proposition was only a trick to get us into his power. But the majority were of opinion that it was an honorable and *bona-fide* offer. And as it was impossible, from want of water, that we could hold out for twenty-four hours longer, it would be well to close with the proposal. These better counsels prevailed; and when the Sovereign of the town again appeared before us, we told him we would accept the terms.

I have seldom felt more ashamed than when we issued, one by one, from behind the barracks in the dormitory. We had fastened the door so tightly with nails that we could not open it from the inside, and the gardener's hatchet and Ned Grimes' crowbar had again to be brought into requisition. The doctor and his wife, and several members of his family, all stood at the head of the stairs, looking very solemn and grave, to see us emerge from our fortress. We came out singly through the narrow opening which had been made,—unwashed, uncombed, dirty, and ragged, and with eyes red and blood-shot, having scarcely slept from the commencement of the barring out. Not a word was spoken: we passed slowly down the stairs, and then we all assembled in the school-room below. A vast pile of birch rods heaped upon the table was the first thing which met our view; and, then and there, we were each stripped in turn, and being held by Ned Grimes and the gardener, neither of whom could conceal their delight at the turn matters had now taken, we were flogged to the heart's content even of the gardener himself.

The holidays were never afterward stopped.

WHAT I deplore in our present higher education is the devotion of so much effort and so many precious years to subjects which have no practical bearing on life.—*Froude*.

A TALK ABOUT DRAWING.

OUR public-school system, as originally planned, was strong and solid ; but without grace or ornament. It was practical in a new country, where the main object of life must necessarily be to procure subsistence, and to obtain by simple modes of manufacture articles for every-day use. But, in one respect at least, the system has failed to keep pace with advancing civilization. It is now too narrow for our needs, inasmuch as it fails to supply a basis for artistic technical culture.

The majority of our public-school children, those of the cities and manufacturing towns especially, will find life-employment in some mechanical trade. The value of their future labors, and the consequent wealth of the country, will obviously depend very largely upon the training with which they enter upon their several occupations. The experience of Europe during the past decade conclusively proves that no element of education helps more to prepare a pupil to become a skilful and artistic artisan than drawing. In view of these facts, it is evident that any system of public instruction which, like ours, omits drawing, is neither economical nor complete. And to the increased material value of trained labor, we must not forget to add the great moral good which arises from bringing brain and muscle into harmonious co-operation,—the sure result of every increase of the practical education of the productive classes.

In many respects, American artisans are the most intelligent in the world. Especially do they excel in inventive genius. But as a rule they lack artistic culture. The number, variety, and adaptability of our labor-saving machines is something wonderful, while the rapidity with which we manufacture many articles fairly takes away a foreigner's breath. Yet articles of American manufacture almost always lack grace and finish, and appear disadvantageously in market for that reason. For lack of the crowning excellence of beauty, they are sold for a smaller price than European articles of the same material value. As a manufacturing people, we cannot afford to deprive our artisans of, or what is equivalent, fail to provide for them, the training needed to enable them to compete successfully with the skilled laborers of other countries in this respect. To do it is to lose just so much every year as the products of skilled labor are worth more in the markets of the world than the products of unskilled labor. It is with the unskilful nation as with the unskilful workman—the hardest work and the poorest pay. We have sent millions of dollars to Europe for so small an article as fancy buttons, which, with our improved machinery, we could have made cheaper at home, simply because we have not been able to invent so pleasing designs as could be imported.

We do not ask, indeed we do not desire, that the higher branches of drawing and designing be taught or attempted in the public schools. But we do desire that the *elements* of drawing be taught, and the foundation thus laid for the subsequent pursuit of this art, as the foundation is now laid for the pursuit of literature and science. Watch the patient labor of a boy in his efforts to fashion some childish toy, or to draw some likeness of his dog or cat or horse. He is telling you very plainly what kind of teaching he requires. The elements of drawing are admirably adapted to the taste and capacity of childhood; and drawing exercises afford a pleasing diversity to the somewhat dull routine of primary instruction. For no other exercise do children generally manifest so natural a relish—that is, of course, when the exercise is properly presented to them. The eye is the first organ addressed in infantile education. Next comes the hand. To neglect to train these, is to violate one of the plainest teachings of nature. It is profitable not only to begin this training in school, but to begin it early. It is indulging the child's natural bent. It keeps him occupied when nothing else can; and as his education advances, he is thus enabled, without loss of time, to proceed with whatever branch of drawing, whether artistic or mechanical, that may be adapted to his taste or needs.



OUT OF SCHOOL IN THE MIDDLE AGES.

II.

IT was in Paris that the turbulence and the privileges of the students were manifested to the greatest advantage. In 1229 a drunken student quarrelled with the keeper of a cabaret because the latter refused to serve him with more wine. The people of the quarter siding with the wineseller, the student and one or two of his pot-companions received a sound thrashing and took themselves off. But it was only for that day. Early on the morrow they reappeared, with a following that would have delighted the heart of a Celt bent on annihilating an opposition lecturer. First assailing the wine-shops, they broke them open in all directions, drank the liquors, smashed the barrels, paraded the vintners and flogged them with circumstances of grotesque ignominy, and took unwarrantable liberties with their womankind. Had the students limited themselves to these mild achievements, it is probable that authority—lay and clerical—would have looked quietly on. But riotous learning on this occasion behaved in no respect better than riotous ignorance could have done. Having used up all the winesellers, as well as their wares, they proceeded

to lavish their attentions on the citizens indiscriminately, and by midday all Paris was one vast Donnybrook—as that delectable spot used to be forty years ago. This was during the regency of Queen Blanche, mother of St. Louis, and to her court in hot haste hied a deputation of the Parisians, every man of them “with his crown comfortably cracked.” “Wiping their bloody noses,” as the annalist writes with a commendable attention to detail, they told their story, and her Majesty became exceedingly wroth thereat. Calling out her Guards, and ordering them to the scene of strife, she very heedlessly commissioned them to punish the rioters when they caught them. The gallant routiers marched imposingly toward town, but reflecting that some thousands of reckless students were ugly customers to deal with in the narrow streets, they diligently inquired which way the rioters were to be met with, and took the opposite. This led them to a field where a number of the more exemplary scholars were quietly exercising. At sight of cap and gown the valor of the routiers took fire at once. They formed and charged, killing several of the astonished youths outright, wounding a great many, and robbing all they laid hands on with the greatest dexterity. This gave another turn to the affair. The losses and broken bones of the citizens were no longer of account in anybody’s eyes. Nothing was thought of henceforth but the broken privileges of the learned, nothing heard but their loud demands for justice. Had anybody but the Queen been the offender, assuredly he or she would have had sufficient cause for sorrowful repentance. And it cost even her Majesty a good deal of anxiety and annoyance, and much humiliation, before the university condescended to forget it. What a mere subject might expect for trenching on the immunities of the learned was exemplified in the case of the Count of Savois, a powerful favorite at the court of Charles VI. This worthy had the misfortune to countenance his vassals in an affray with some of the students during a religious procession, and the lackeys had the audacity, not merely to chastise their opponents, but to follow them into a church where they had taken refuge, and beat them there. This was a serious offence, and so the Count found it. In spite of the powerful influence exerted in his favor he was heavily fined, saw his town-house—a magnificent building—razed to the ground, and was further compelled to seek out and arrest, at his own charge, such of the actual offenders as had fled. And even then he escaped very much better than the unfortunate magistrates who were now and then provoked by some extraordinary atrocity to treat the *protégés* of the university like any other felons. In 1304 Messire Pierre Barbier, a scholar, was committed to prison, condemned and executed for murder, as if he, the said Pierre Barbier, had been a vile unlettered scoundrel. But, as was needful, this indiscriminative magistrate was soon rendered sensible of his error. All study was instantly

suspended, and the clergy of Paris were summoned, under pain of excommunication, to assemble in the Church of St. Bartholomew. The ecclesiastics, however, did not require to be threatened into a step like this. They gathered, nothing loth—archpriests, canons, and curates—and fraternizing with doctors and students, raised crosses and banners innumerable, and proceeded in formidable procession to that Jericho, the house of the Provost. Having encompassed it in all directions, they commenced a simultaneous howl to the following effect: “Reparation! reparation! cursed Sathan! Dishonorer of Holy Mother Church! Wounder of her rights! Reparation, or down with you to the pit with Dathan and Abiram.” And this moderate request they accompanied by volleys of stones that made sad havoc of the Provost’s doors and windows. But as the “cursed Sathan” did not exactly know how to improvise the required reparation at a moment’s notice, he was then and there excommunicated according to the severest form of that terrible sentence. Nor was this all. Having exhausted its breath and all the paving-stones within reach, the procession reformed and made its way to the palace. And high was the tone that it took in the presence of the perplexed monarch. For though Philip le Bel was accustomed to carry things with a very high hand in most cases, he met his match for once in the university. At first nothing would satisfy that learned body but the instant suspension of the Provost from the very highest of his own numerous gibbets. Nor was it without much respectful expostulation and humble entreaties that the monarch managed to save the life of his magistrate. But that grace was only accorded on condition that the offender should be degraded from his office, beg pardon on his knees of the university, remove the clerk from the gibbet, kiss him on the mouth, found two chaplaincies for the benefit of his—the clerk’s—soul, and then make a pilgrimage in his shirt to Avignon in order to obtain absolution. And precisely similar was the fate of Messire Guilliame de Tignouville, Provost in 1408, who, as the annalist puts it, “thinking, forsooth, that his knowledge of the civil law gave him a right to disregard the sacred canons,” actually dared to hang two students on the common gallows in the face of open day, and in the presence of a mob that howled with exultation—“It seems, then, that both scholars and regulars will be punished for the future just the same as other people.” These students, Messire Olivier François and Messire Jean de St. Leger, the one a Breton and the other a Norman, had waylaid, robbed, and murdered a party of merchants. That, however, was no concern of the Provost’s, and though the latter and his friends made a stubborn fight of it from Christmas to Easter, he had finally to submit to precisely the same terms as his predecessor, the kissing on the mouth included. And in this way was authority taught to distinguish between education and ignorance in the pleasant days of old.

It was only once in a hundred years, or thereabout, that justice ventured with well-grounded fear and trembling to meddle with the student. But the student was always fiercely at war with justice. It was deposed in 1560, by the attorney who kept the town registers at Valence, that he could not remember a single morning for eight years past, whereon the records were not filled with notices of outrages perpetrated the night preceding by the scholars. "Whoever stirred abroad after dark," said he, "was sure to be robbed and beaten, if not murdered." And besides this, houses in the outskirts, and sometimes in the centre of the town, were broken open nightly, and every possible crime perpetrated on the inmates. And it was the same in most other towns that boasted of school or college. Indeed, it was rather more with a view to the doings of the students than to those of the regular thieves—that the mystery plays were ordered to be closed, in all cases, by four o'clock in winter. This was not pleasant; but in addition the student was accustomed to diversify his legal and illegal pursuits with outrageous practical jokes. He carried quills containing unpleasant insects to church, and blew them upon the congregation. He fastened the devout together by means of fish-hooks. He scattered adhesive burrs, and "itching powder," on the passengers. He greased the pavement in front of the churches, and he delighted to attach ridiculous appendages to the frocks of the friars. But his especial pleasure consisted in tormenting the watch, ornamenting them according to his fancy, and fixing them in ridiculous positions when he happened to find them asleep, and inveigling them into unpleasant predicaments when he chanced to encounter them awake. Sometimes he took it in his head to transfer the burden of the next gibbet to the sign of an obnoxious trader; and occasionally he ventured to suspend the trader himself from the said gibbet. He was always at feud with apprentice, lackey, and soldier, and no gathering ever took place without a drawn battle between these inveterate belligerents. He was particularly conspicuous as the exponent of current feeling, and in this character he was dreaded above all things by unsuccessful generals, rapacious mistresses, and unpopular magistrates and ministers. These people he was always ready to lampoon, caricature, and burn in effigy; and equally forward, when occasion served, to hiss, hoot, and stone.

Next to his excessive privileges and equally excessive turbulence, the mediæval student was notorious for his propensity to wandering. But for this he had some excuse. Every university had its own peculiar subject of excellence;—Paris being renowned for theology, Montpellier for medicine, the Italian schools for law, and the Spanish for the natural sciences. Consequently, before an education could be completed, it was necessary to make the tour of Western Europe, and nearly every student did so. Indeed, there is scarcely a name celebrated in literature or state-

craft during the middle ages that may not be traced from one end of Christendom to the other in search of knowledge. Becket, for instance, studied at Oxford, Paris, and Bologna ; Dante at Padua, Bologna, Paris, and Oxford ; Wolsey's successor Cromwell, and Popes Sylvester II. and Pius II. extended their learned travel still further ; and not a few of the early scholars, like Guarius the Veronese, and the learned John of Basingstoke, archdeacon of Leicester, sailed to Athens or Constantinople to learn Greek ; or like the monk Adelard pushed their way through a thousand difficulties to the East to make acquaintance with that, in those days, much-desired tongue, Arabic, in its purity.

A source almost as prolific of learned rambling as the desire of knowledge, was the wish to exhibit that knowledge when acquired. A man of many tongues, or much science, was as ostentatious of his wares as the vainest beauty, and even more industrious in seeking opportunities for display. It became fashionable for well-read men to wander about from one celebrated college to another propounding elaborate subtilties, extraordinary paradoxes, and singular conceits, and challenging discussion upon all. This custom developed that brilliant class of men represented in Italy by Picus of Mirandola, and in Britain by the Admirable Crichton and Mark Alexander Boyd. Its best specimen, however, was—one whose traits to a great extent have been borrowed to adorn the others—Ferdinand de Cordova, who flashed out in full radiance at Paris in 1445. This youth—he was then but nineteen—was a model of manly beauty and a prodigy of learning. He spoke all the known tongues, was a consummate jurist, a profound theologian, and a skilful physician. He was deeply learned in the mathematics, and, as far as astrology went, the bosom friend and confidant of the stars. He knew by heart the works of the most celebrated school-men in addition to those of Galen, Hippocrates, Avicenna, and Aristotle. And he could handle all this learning with unrivalled dexterity. Nor was he less formidable in helm and shield than under cap and gown, for he was a perfect swordsman, and he rode like a centaur. And he was just as superexcellent in the milder accomplishments. He sang, he danced, he painted, he composed, and he played admirably on all possible musical instruments. As for his achievements, they were just as extraordinary. He vanquished all the disputants, overturned all the tilters, and won all the beauties. He dazzled, indeed, until his contemporaries, unable to account for him otherwise, pronounced him with one voice—the devil incarnate. And his end was as mysterious as his capacity. For just when his genius flashed the brightest—whiff, it went out ; but where, how, or when, nobody could tell.

The theses in which these argumentative itinerants delighted were only too ridiculous. But for all that they sufficed to set those pugnacious generations very seriously by the ears. More than once have the learned

throughout Europe taken sides on some worthless quibble and fought it out in the school-room with foot and fist, as well as with the tongue. The weaker party, of course, always went to the wall ; and often a good deal further. For on these occasions it was the custom to expel professors by the dozen, and scholars by the thousand. At the commencement of the sixteenth century, we find the University of Paris busy discussing whether *ego amat* was not as good a phrase as *ego amo* ; and endeavoring to settle the true pronunciation of the letter Q by "the strong arm of the law." And these subjects of dispute were sound sense itself in comparison with many others. Irish students were particularly renowned for their perverse ingenuity in fabricating dilemmas, and their annoying industry in fixing honest people between them. In the eighth century we find them tormenting all Christendom with this piece of logic :—"You must either affirm or deny that the three persons of the Trinity are three substances. If you affirm it you are undoubtedly a Tritheist, and worship three gods. And if you deny it, this denial implies that there are not three distinct persons, and you fall into Sabellianism. And so, my worthy friend, whichever way you take it, you are a heretic, and safe for condign punishment." This was neat, and gave the clerical authorities much trouble in its time. And no sooner was it forgotten than some other subtle Irishman was sure to propound something as mischievously two-edged ; until the Green Island's chiefest boast in those days, Erigena, originated that puzzling controversy about "universals" which gave ample employment to all the doctors, before the Reformation called them up from quibble and quiddity to the discussion of matters of solid interest.



THE FIRST AIM OF EDUCATION.

I ACCEPT without qualification the first principle of our forefathers, that every boy born into the world should be put in the way of maintaining himself in honest independence. No education which does not make this its first aim is worth anything at all. There are but three ways of living, as some one has said : by working, by begging, or by stealing. Those who do not work, disguise it in whatever pretty language we please, are doing one of the other two. . . . The practical necessities must take precedence of the intellectual. A tree must be rooted in the soil before it can bear flowers and fruit. A man must learn to stand upright upon his own feet, to respect himself, to be independent of charity or accident. It is on this basis only that any superstructure of intellectual cultivation worth having can possibly be built.—*Froude*.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION VIII.—*The Chlorine Group.*

BOTH the physical and the chemical properties of chlorine are of a strongly marked character.

Chlorine is a greenish-yellow gas, twice and a half as heavy as air, with a pungent suffocating odor. It combines readily with hydrogen and with the metals. With the former it makes hydrochloric acid (called also muriatic acid). The most abundant compound of chlorine and a metal is common salt, which is chloride of sodium. From either of these two leading compounds, chlorine may be prepared for experiment.



Exp. 66. Put into a flask about a tablespoonful of black oxide of manganese; add enough hydrochloric acid to make it of the consistence of thick cream. Mix thoroughly by shaking the flask, and apply heat. The flask must be provided with a cork and bent glass tube, leading to the receiving-jar. The jar should be loosely covered, so as to permit the escape of the contained air, and at the same time to prevent a free escape of the chlorine. The weight of the chlorine will sink it promptly to the bottom of the jar. Care must be taken against inhaling the gas too freely.

Exp. 67. In a flask prepared as in the last experiment, put four parts of common salt, one part of black oxide of manganese, two of sulphuric acid, and two of water. Apply heat and collect the gas as before.

Exp. 68. A third method for preparing chlorine is a very simple and rapid one, and is appropriately employed when the deodorizing property of the gas is to be applied.

In the bottom of a special jar or bottle put a tablespoonful of chloride of lime. Prepare a mixture of one part of sulphuric acid and four or five parts of water; when the heat arising from the combination has disappeared, pour the mixture upon the chloride of lime. Chlorine is rapidly evolved.

Exp. 69. In a jar of chlorine gas, hang two pieces of bright-colored calico, one of which is dry and the other wet with water. The wet piece will rapidly lose its color.

Exp. 70. Fix a taper to a bent wire, light it, and lower it slowly into a jar of chlorine. The flame becomes red and throws off large volumes of smoke.

This experiment shows the affinity of chlorine for hydrogen. The material of the candle being carbon and hydrogen, and the atmosphere of the jar affording chlorine alone, the carbon is liberated, while the remaining elements unite to form hydrochloric acid.

Exp. 71. Fill a tall narrow jar with chlorine. Prepare some powdered antimony by crushing and sifting through muslin until it is finely pulverized. Sprinkle the antimony from the fingers slowly into the jar. It will burn with brilliancy and fill the jar with a white vapor of chloride of antimony, which at the close of the experiment may be poured from the jar almost as though it were liquid.

Exp. 72. Procure at a sign-painter's a few leaves of "Dutch gold." It is an imitation of gold-leaf. Put a leaf into a jar of chlorine. It burns rapidly, forming chloride of copper and chloride of zinc.

Exp. 73. Wet a bit of paper or rag with turpentine that has been slightly warmed, and put it into a jar of chlorine. It burns, giving off a great volume of soot.

Exp. 74. Fill a tall bottle with water, and invert it in the usual manner on the shelf of the pneumatic trough. Displace two-thirds of the water by chlorine and the rest by common illuminating gas.

Remove the jar, turn it mouth upward, and ignite the mixed gases. The fire proceeds gradually to the bottom of the jar while a dense cloud of smoke is formed above.

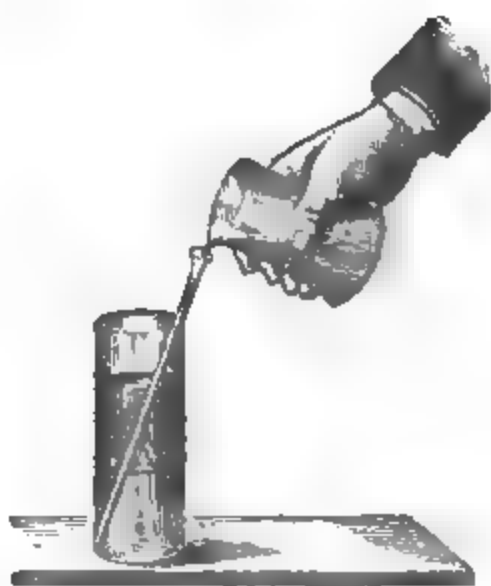
Exp. 75. Prepare some chlorine water by conducting the gas into a jar of water, through which it is allowed to bubble. Keep the solution in a dark place. It may be used for removing fruit-stains, or for disinfecting purposes.

Exp. 76. Make a colored solution by adding a little litmus or aniline to a tall glass of water. Connect a glass tube with a funnel by aid of a piece of rubber tubing, so that it will reach to the bottom of the glass. Pour in some chlorine water—prepared as in the last experiment. The solution is decolorized rapidly, beginning at the bottom.

Exp. 77. Prepare a flask of ammonia gas, as in Experiment 65. Fill a flask also with chlorine. Bring the open mouths of the two flasks together. A dense white cloud of chloride of ammonium is formed.

There are five different compounds of chlorine and oxygen. They are mostly of such character as to prevent their exhibition in the school-room.

The following experiments, however, with chlorate of potash, which



contains chloric acid, may be safely tried by experimenters of limited experience.

Exp. 78. In a tall jar full of water put a tablespoonful of chlorate of potash and a few pieces of phosphorus cut small,—the whole bulk of the phosphorus being about equal to a small marble.

Place in the jar a funnel-tube, as in *Exp.* 76, and pour in some sulphuric acid. A brilliant and noisy combustion of the phosphorus ensues, which, by slowly adding the acid, may be continued for some time.

Exp. 79. Mix one spoonful of pulverized sugar and two of chlorate of potash. Put the mixture on a tin plate or slate, and apply a drop of sulphuric acid. It burns with a pinkish-colored flame, and very rapidly.

Exp. 80. Pulverize a single grain of chlorate of potash in a stone-ware mortar; add about as much “flower of sulphur” and rub the mixture with the pestle. A series of sharp explosions will follow, which may be continued for a long time.

Iodine.

Iodine requires no preparation by the experimenter. The solid element is employed, in the form of blue-black scales, just as it comes from the hands of the chemist.

Exp. 81. Put two or three small scales of the solid iodine into a small flask and apply heat. Violet vapor soon fills the flask, and unless the latter be heated throughout, fine crystals of iodine will be at once deposited in the neck. Alcohol may be used to wash out the flask. The yellow-brown solution thus formed, is the “tincture of iodine” sold by the druggists.

Exp. 82. Dissolve a few grains of starch in a cup full of boiling water. Add a little of the solution from Experiment 81. A blue solution of the iodide of starch is formed. Boil this blue solution and the color will disappear, but will return again as the solution cools.

Exp. 83. Dip a brush in a solution of starch, and draw or write upon clean white paper. Prepare iodine vapor by dropping a few particles upon a hot tin plate. Hold the starch drawing, while still moist, in the vapor; it will assume a deep-blue color.

Exp. 84. Expose the freshly cut surface of a potato to iodine vapor. The blue color which appears proves the presence of starch.

Exp. 85. To a solution of starch add one or two crystals of iodide of potassium. No change of color appears until something capable of decomposing the salt and releasing the iodine is added. Add a few drops of sulphuric acid, and stir the solution. It immediately turns blue.

Exp. 86. Prepare the solution as in No. 85, but instead of sulphuric acid add chlorine water. The iodine will be set free as before.

If chlorine gas be poured upon the solution, and the latter stirred, the same effect will be produced.

Exp. 87. Cut some thin slices of phosphorus, observing the precautions given in *Exp.* 39. Place upon each slice a small scale of iodine. They soon burst into flame. The union of the two elements affords heat sufficient to inflame the phosphorus.

Exp. 88. Place a few scales of iodine in a wine-glass, and pour upon them enough aqua ammonia to cover them well. Let the mixture stand about a quarter of an hour. Pour off the ammonia, and pour on some water. Stir the mixture and filter, using two or three different filter-papers; as the liquid passes through, tear the paper while still wet into two or three pieces, dividing the brown substance on the paper each time. The papers when dry cannot be moved without exploding them. This compound is called the iodide of nitrogen, but its composition is somewhat doubtful.

Instead of filtering as above, the iodide may be removed from the water with a slip of glass, and spread upon slips of paper, or, what is quite as well, placed upon the floor or pavement.

Bromine.

This element is obtained of the chemist in small bottles carefully sealed. The liquid element being covered also with a little water.

Exp. 89. A drop taken from the bottle by means of a dropping-tube and placed in a flask, fills the latter with a deep-red vapor.

Its bleaching property may be easily tested. It has less power than chlorine.

Exp. 90. Put a drop of bromine in a wine-glass. Into the glass drop a piece of the metal potassium, not larger than a pea. The explosion is instantaneous. The experiment should not be tried when observers are very near, as the potassium is thrown about with considerable violence.

Fluorine.

This element is not yet prepared by the chemist. The compound of chief interest to the experimenter is hydrofluoric acid. It is prepared from fluor spar by adding sulphuric acid, and is used solely for etching on glass.

Exp. 91. To make an etching, procure an old teacup and a piece of glass large enough to cover it.

The glass must be covered with wax as follows. Warm the glass by passing it back and forth over the flame of the spirit-lamp. Rub the glass with a bit of beeswax. If the glass is warm enough, some of the wax will adhere.

Now warm the glass again until the wax melts and flows uniformly over as much of the glass as is to be exposed.

Make, on white paper, the drawing you wish to transfer to the glass. Place the glass (waxed side uppermost) over your drawing. Trace the picture carefully with a hard-pointed pencil, taking special pains to cut through the wax to the glass.

Put in the cup nearly a tablespoonful of powdered fluor-spar or cryolite. Rub some wax or oil on the sides of the cup. Add sulphuric acid enough to make a thin paste of the fluor-spar; cover at once with the glass so as to expose the drawing to the gas liberated, and apply, if possible, a gentle heat, but not enough to melt the wax.

After a few minutes it may be set away by itself for an hour. Be very careful in the mean time not to inhale any of the fumes.

Remove the glass—clean it with turpentine, and the drawing will be found indelibly fixed in the glass.

Instead of the teacup as mentioned above, a far better holder may be made by a plumber from sheet-lead. Two and a half inches square and three-quarters of an inch deep, are good proportions.

HOW AND WHEN TO TEACH SCIENCE.

IF scientific training is to yield its most eminent results, it must be made practical. That is to say, in explaining to a child the general phenomena of nature, you must, as far as possible, give reality to your teachings by object-lessons; in teaching him botany, he must handle the plants and dissect the flowers for himself: in teaching him physics and chemistry, you must not be solicitous to fill him with information, but you must be careful that what he learns he knows of his own knowledge. Don't be satisfied with telling him that a magnet attracts iron. Let him see that it does; let him feel the pull of the one upon the other for himself. And especially tell him that it is his duty to doubt until he is compelled, by the absolute authority of nature, to believe that which is written in books. Pursue this discipline carefully and conscientiously, and you may make sure that however scanty may be the measure of information which you have poured into the boy's mind, you have created an intellectual habit of priceless value in practical life.

One is constantly asked, When should this scientific education be commenced? I should say with the dawn of intelligence. A child seeks for information about matters of physical science as soon as it begins to talk. The first teaching it wants is an object-lesson of one sort or another; and as soon as it is fit for systematic instruction of any kind, it is fit for a modicum of science.—*Huxley.*

AUGUST, 1869.

VACATION.

WHEN the sons of God assembled on a certain ancient occasion, Satan came also. It's his way. He seems to have a knack of turning up on *all* occasions. Without saying so much as "by your leave," or waiting for an invitation, the disagreeables of life (the modern term for Satan and his imps) put in an appearance always—even in vacation-time.

We are not led to this moralizing strain by any thoughts of gnats, musquitos, scorching days and sweltering nights, and other natural afflictions that accompany this happy season ; but by something worse, more useless and unaccountable—a call for a Vacation Editorial.

What the logical connection between hot weather, insect pests, and vacation may be, we confess our inability to discover. We are equally in the dark in regard to the logical necessity of saying, just at this time, "something about vacation." But facts are facts ; and musquitos are not more inseparably connected with this otherwise unobjectionable period, than this sort of literature seems to be. *Why*, we don't know. All we know is that a vacation editorial (bother the word !) is demanded : that is, by the worthy publishers of the MONTHLY. It's the proper thing for the season, no doubt, or the custom would never have originated ; but we could wish that the reason of it were more apparent.

Is it possible—and the harrowing suspicion that it may be comes over us for the moment—that anxious ma'ams and masters are really waiting to be told what to do with the precious hours between the last day of this school-term and the first day of next term ? Seriously we hope not ; yet for fear that it may be so : that a neglect of duty on our part may deprive some suffering brother or sister of the blessings of a well-spent vacation, we will rise to the occasion ; and remembering the years when

we used to be favored with such periods of release from labor, we will essay to tell how the days may be spent with pleasure and profit.

In the first place, anxious friends, you should each bear in mind that **you** have a mind—and a profession ; and that these are all and all to **you**. To be sure the confinement and incessant labor of the past year, and the nervous exhaustion proceeding therefrom, would seem to indicate the existence of a body to be cared for, now that you have an opportunity to do it ; but don't give way to the delusion. Spurn the insidious temptations of sense as you do those of would-be friendly advisers who tell you that you want rest and recreation. You don't want rest, *but change of occupation!* Let your new occupations be such as befit a scholar. Don't be enticed into pic-nics, or fishing excursions, or mountain scrambles. Rather take your algebras and grammars, your big dictionaries and historic tomes, and employ the hours of release from toil in storing your minds with precious knowledge. You will grow pale and headachy in consequence ; but that is scholarly. Stick to your books. Be dignified. Never drop your professional air and bearing. We have known teachers to forget themselves even so far as to be seen actually lying on the grass in the shade, or frolicking with children in the woods and meadows. Don't you do it. It isn't professional. Don't go into the fields, either, and make believe work with the men. It will destroy the intellectual pallor of your countenance and roughen your hands and your manners. It may toughen your stomach, too ; and your brain, perhaps ; so that you will appear as unscholarly as other men.

Stick to your books. If you needs must have recreation, let it be intellectual. Don't mingle too much with common people. Let your associations rather be with men of culture like yourself. Attend all the teachers' meetings you can, and get acquainted with the Book Agents. Listen attentively to their words, and to the speeches of the eminent educators and distinguished authors who will be on hand to instruct you. They will tell you things that you would never hear elsewhere.

But don't allow these intellectual and professional diversions, profitable as they may be, to occupy too much of your time. Remember that the cultivation of mind is your chosen occupation, and the only way to prepare yourself for the work is to cultivate your own mind. For this there's nothing like reading. Read therefore, constantly, the heaviest books you can lay your hands on. And let your conversation savor

thereof. Talk ancient history and philosophy to such persons as may be disposed to converse with you. Tell the farm-hands the Latin words for *hoe* and *rake*, and the Greek for *pitchfork*. If you don't know these languages, recite something from your grammar. It will air your learning and inspire all who meet you with a wholesome respect for education.

Above all, *study*. It is the only way to spend a vacation profitably. Study constantly, and you will be surprised at the spirit, to say nothing of the vigor, with which you will enter upon the next term's work,—and the ease with which you will shuffle off the mortal coil before the term is done.

WM. H. SEWARD AS A SCHOOLMASTER.

A GEORGIA paper reproduces an ancient advertisement of Union Academy, Putnam County, Georgia,—over which Wm. H. Seward presided as rector some fifty years ago,—“as a reminiscence likely to interest many of our older inhabitants, some of whom were students in the Academy under his administration.”

The advertisement, which first appeared in the *Georgia Journal*, of Milledgeville, in 1819, sets forth the advantages of a private Academy lately established “not far from Garner's ferry,” and “adapted to the accommodation of 80 to 100 scholars, in two schools.” The interesting point of the announcement, however, is the statement that “The rector, Mr. Wm. H. Seward, is late from Union College, New York, from which institution he comes highly recommended as a young gentleman of good moral character and distinguished industry and literary acquirements.” The enumeration of Mr. Seward's duties seems to have suffered at the printer's hands. We give what we find. “He will teach,” so the advertisement runs, “the Latin and Greek language, theoretically, (*sic*) practical Mathematics, Logic, Rhetoric, Natural and Moral Philosophy, Chemistry, Geography, English Grammar, and such other branches as are usually taught in Northern Colleges.”

In view of Mr. Seward's subsequent career, it would be interesting to know how far his political course has been influenced by his experience at Union Academy, “in the neighborhood of Major Wm. Alexander, Mr. Wm. Walker, and Col. Wm. E. Adams, in Putnam County,” Georgia.

EDUCATIONAL INTELLIGENCE.

AT a meeting of the American Women's Educational Association in this city, a short time ago, the following resolutions were adopted. It is to be hoped that the sentiments they embody may speedily be put to the test of practical execution. There is more wisdom in them than is commonly found in the resolutions of Educational Associations.

1. That one cause of the depressed condition of woman is the fact that the distinctive profession of her sex, as the nurse of infancy and of the sick, as the educator of childhood, and as the chief minister of the family state, has not been duly honored, nor such provision been made for its scientific and practical training as is accorded to the other sex for their professions ; and that it is owing to this neglect that women are driven to seek honor and independence in the institutions and the professions of men.

2. That the science of domestic economy in its various branches involves more important interests than any other human science, and that the evils suffered by women would be extensively remedied by establishing institutions for training woman for her profession, which shall be as generously endowed as are the institutions of men, many of which have been largely endowed by women.

3. That the science of domestic economy should be made a study in all institutions for girls ; and that certain practical employments of the family state should be made a part of common-school education, especially the art of sewing, which is so needful for the poor ; and that we will use our influence to secure these important measures.

4. That every young woman should be trained to some business by which she can earn an independent livelihood in case of poverty.

5. That, in addition to the various indoor employments suitable for women, there are other outdoor employments especially favorable to health and equally suitable, such as raising fruits and flowers, the culture of silk and cotton, the raising of bees, and the superintendence of dairy farms and manufactures. All of these offer avenues to wealth and independence for women as properly as men, and schools for imparting to women the science and practice of these employments should be provided, and as liberally endowed as are the agricultural schools for men.

CONNECTICUT.—If the old adage, "Where there's much smoke there must be some fire," holds good, we may believe that the needed educational awakening has at last come over this long torpid state. The Report of the past year's school work is really creditable—for Connecticut : we trust that it is equally credible. Indeed, after striking an average between the figures of speech and figures of fact, which the Report affords—an operation needed by most school documents—and comparing the result with the unenthusiastic reports of impartial witnesses, we find good grounds for hope that before many years the common-schools of Connecticut will cease to be a by-word, a satire on New England intelligence. True, the recent improvement shown by the statistics is slight—save in the matter of cost—yet the promises of great things to be are numerous, and apparently well founded. The new free-school law

has relieved the schools of a serious encumbrance, and by throwing the cost of public education upon the people at large, it has awakened a much more general interest in school affairs, an interest that cannot fail to be effective for good.

The number of children between four and sixteen years of age, at the beginning of the current year, was 124,082. The number of pupils registered as in school during some part of the year 1868, was 99,390, of whom 2,644 were over school-age. The number enrolled in winter schools was 82,140; in summer schools, 75,177. The average attendance on the former was, 59,489; on the latter, 53,645. The enrolment was thus a little over 80 per cent. of the school population. The average attendance was about 72 per cent. of the enrolment, and 48 per cent. of the school population. Inasmuch as "average attendance" means in some places, New Haven, for example, the average number present in school, *plus* the number excused or *absent by permission*, the actual daily attendance upon the schools of Connecticut is scarcely yet a matter to brag of. The schools were open, on an average, eight months and three days. The number of teachers employed during the winter seasons was 2,225—males 645, females 1,580. During the summer the number was 2,207, of whom 150 were men. These figures show that here, as in most other states, there is far too much shifting about of teachers. The average pay of female teachers was \$26.93 a month, including board. The male teachers were paid more than twice as much, namely, \$56.64. Twenty-nine new school-houses were built during the year, making the number in the State 1,640, with 2,140 departments. Only 877 school-houses are reported as in *good* condition; 458 are reported *fair*, and 304 in *poor* condition. A commendable regard, however, for convenience, comfort, and even architectural elegance in school-buildings, appears to be growing in many parts of the State. "More first-class school-houses were erected last year than ever before in a single year." Yet "there still remain very many 'school huts,' badly located, in damp unhealthy flats, near railroads, factories, or drinking-saloons, or directly on the highway, without any playgrounds or suitable outbuildings, with but one entrance for boys and girls, narrow and low-ceiled, ill-ventilated, without blinds or curtains, while windows front the scholars in their seats"—an array of charges that fairly staggers one to read. "In a few cases," the Secretary goes on to say, and we have had ocular proof of the truth of his assertion, "the desks consist of long boards around three sides of the room, while three planks fronting them supply all the seats for the larger scholars, and a similar and shorter row of planks nearer the box-stove in the centre, serves for the younger children." The condition of these so-called desks and seats, in respect to ink-daubs and carving, it would scarcely be prudent to describe.

The capital of the school-fund is \$2,046,109, affording a revenue of \$124,082. The Town Deposit-fund is \$763,661, affording a revenue of \$43,985. The total income of the public schools was \$1,043,086, an increase for the year of \$59,280. The total amount expended for public schools was \$1,102,170, an increase of \$139,442. Of the expenditures, \$609,658 went for teachers' wages, an increase of \$52,464; \$276,901 for new buildings, and \$51,781 for repairs. Evening schools have been conducted in New London, Hartford, and New Haven with very happy results. The number of private schools in the State is 345, reporting

10,364 pupils. The Secretary enters into an elaborate argument in favor of the re-establishment of the Normal School, and also for a more efficient system of school supervision. The latter argument would have been much more satisfactory had a more fortunate selection of facts been made on which to base it. He endeavors to show the advantages of city supervision by parading the results obtained in New Haven (the only city in the State having a School Superintendent), but adroitly ignores the fact that there are other cities in the State which obtain *better* results—a larger enrolment in proportion to school population, and a higher percentage of average attendance, at from one-half to two-thirds the cost per scholar—without a superintendent. New Haven will appreciate the puff, but what will Hartford and New London say?

OHIO.—From the abstract of statistics in the fifteenth annual report of the Commissioner of Common schools, we select the following:—Number of unmarried youth between the ages of five and twenty-one years, 1,019,192; an increase for the year of 23,942. Number of pupils enrolled in the public schools, 731,772; an increase of 27,005. Average number in daily attendance, 410,721; an increase of 13,235. Percentum of enrolment on number enumerated, 72; an increase of 2 per cent. Percentum of average daily attendance on number enumerated 40,—no increase. The number of schools was 11,783, an increase of eleven. The number of teachers necessary to supply these schools was 14,070, an increase of 482. The number of teachers employed for some portion of the year was 21,592—males 8,854, females 12,738; an increase of 24 in the former, and a decrease of 482 in the latter. The average wages of male teachers was, in common schools, \$39.86 a month; in high schools, \$92.41,—an increase of \$1.34 in the former, and \$5.31 in the latter. The average monthly wages of female teachers was \$24.75 in common schools, an increase of 95 cents; and \$49.97 in high schools, an increase of \$6. In 2,338 districts, the teachers “boarded around.” The schools were sustained on an average 139 days; but the average school attendance was equivalent to only fifty-seven days to each person of legal school-age. The number of school-houses in the State at the beginning of the current year was 11,406,—framed 8,499, brick 2,158, stone 103, log 646. Of the 10,678 school-houses in sub-districts, 7,095 were reported as *without suitable outbuildings*; 8,104 were without grounds properly fenced. The number of school-houses erected or completed during the year was 635. Of these, 427 framed and 147 brick buildings were erected in sub-districts at an average cost of \$931; and 9 framed and 52 brick buildings were erected in separate districts, at an average cost of \$10,556. “One noticeable and most commendable feature in providing new school-buildings in the separate districts, is the increased attention given to the selection of suitable sites,”—a feature that, it is to be hoped, will soon characterize the rural districts also. The sources of school revenues are: the principal of the irreducible School Fund, about \$3,370,000, State tax, local tax, and moneys raised by fines, licenses, etc. The “grand total of receipts from all these sources for 1868, was \$7,395,231. The school expenditures were: to teachers, \$3,387,901; for sites, buildings, and repairs, \$1,644,176; for fuel and other contingent expenses, \$672,979, making a total of over \$5,700,000. An interesting table shows the branches of study taught, and the number of pupils in each. The highest number

stands opposite spelling, 576,304 ; the next is reading, 545,734. Then follow in order, writing, 377,534 ; written arithmetic, 268,594 ; mental arithmetic, 254,808 ; geography, 170,987 ; "oral lessons," 100,229 ; English grammar, 99,042 ; the alphabet, 96,469 ; U. S. History was studied by 11,086, and algebra by 12,995 ; German by 14,157 ; Latin by 2,451, and Greek by 662. Drawing was practised by 42,359 ; composition by 60,548, and declamation by 23,708 ; rhetoric was studied by 1,039, and geometry by 1,526. Only 2,299 were taught physiology, and 679 chemistry. Instruction in vocal music was given to 50,807 ; in map-drawing to 26,847 ; in book-keeping to 836. It would be interesting to know the time devoted to each of these studies. After discussing at considerable length and with much candor and good sense the educational condition and needs of the State, the Commissioner suggests the following measures, as likely to prove of advantage to the schools : (1.) A thorough and efficient system of country superintendency. (2.) A broad and comprehensive system of professional instruction and training for teachers. (3.) The abolition of the sub-district system of territorial division, and the adoption of the township system. (4.) The distribution of the State's gratuity on the basis of the actual aggregate school attendance, instead of, as now, on the basis of enumeration of youth of school-age. (5.) The creation of a State Board of Education, or Council of Administration. (6.) The employment of one or more deputy school commissioners, and an increase of clerical force in the school department.

NEW BRUNSWICK.—In the last report published by the Department of Education, the number of children in this province between 6 and 16 years of age, is estimated at upwards of 76,000. It is further estimated that there were 10,000 others between the ages of 16 and 18 ; making altogether 86,000 persons of suitable age to attend school. The number of pupils registered in the public schools the winter term of the year reported, 1867, was 28,231. During the summer the number enrolled was 30,871. The number of different pupils enrolled during the year is estimated at about 38,000. The number attending denominational and other schools not included in the foregoing estimates were sufficient to increase the number of public pupils to upwards of 40,000,—the largest number ever reported for Brunswick. The average time that these pupils were in school is not stated. The largest number of schools in operation at any time during the year was in the summer, when there were 847, employing 866 teachers—407 men, and 459 women. During the winter term there were employed 815 teachers,—430 men, and 385 women. For the payment of these teachers the province provided \$78,752. The local subscriptions, tuition fees, assessments, and "board," increased this sum by \$107,442, making a total of \$186,194.

SCOTLAND.—The excellence of Scottish elementary education has long been admitted and admired ; and this excellence, the friends of denominational schools assure us, has resulted, if not wholly, at least to a very great degree, from the religious teaching which has attended it. Indeed, advocates of a "religious atmosphere" in the school-room have based some of their strongest arguments on the example of Scotland ; and apparently with good reason. Nowhere has religious instruction co-existed with secular instruction for a longer period, or more harmoniously. But it happens, curiously enough, just at this juncture, when

a strong and persistent effort is being made to induce our people to adopt the Scotch system, or something similar, the Scotch are trying just as hard to get rid of it. While our State Legislators misled by special pleading, or worse, are going back from the American theory of exclusively secular public education, the most enlightened statesmen and friends of education in Scotland are doing their utmost to secure its adoption as the basis of their national system. Under the leadership of the Duke of Argyle, a well-planned attempt—the fourth within the last fifteen years—has lately been made to obtain for Scotland a purely unsectarian system of public education, and with an encouraging measure of success. The objects aimed at were—(1.) To extend the rating system and make it uniform by providing that all schools should be national, and that none but national schools should enjoy the Privy Council grants; (2.) To establish a central authority over education in Scotland, through which schools should be provided wherever they were required; (3.) To establish universal undenominational inspection. The Bill providing for these reforms naturally met with strenuous opposition from the clergy of the Established Church, though the people of Scotland were almost unanimously in favor of it. A hard battle was fought over it in the Committee of Lords, much to the detriment of the symmetry and thoroughness of the measure. The second provision was left intact; but the first and third were considerably modified. Two amendments were carried, which provide that denominational schools may still be established, and that Privy Council grants may still be given to both Denominational and National schools. Thus, in the opinion of the London *Saturday Review*, National Education is only half established, and denominational inspection, a fruitful source of dishonesty and inefficiency in the conduct of schools, may be continued in the national schools. The Privy Council will have to support a staff of denominational and a staff of national inspectors, and an opening is still left for sectarian rivalry and discord. In short, the Presbyterian people of Scotland have deliberately, and after the experience of twenty-five years of anarchy and confusion in matters educational, made up their minds that denominational education is unsuited to their country, and have demanded a national system; and the English and Irish Peers, backed by the Bench of Bishops, have refused to listen to their demands, not because they think that national education is unsuitable for Scotland, but because they fear that if undenominational education were established in Scotland it would soon be demanded in England.

Nevertheless, the gains which will accrue to the people of Scotland from the Bill, even in its mutilated state, will be by no means inconsiderable. They will get a Board of Education whose duty will be to see that schools are established wherever they may be required. A principle of universal rating will free parents from dependence on the caprice of voluntary benefactors, or on the jealousy and spasmodic rivalry of contending sects. Most of the schools are released from clerical supervision, and are henceforth to be managed by committees elected by the people. The schoolmasters are for the future to be selected from a body of certified teachers, approved by competent examiners. Every school in Scotland is to be under official inspection, and the buildings are to be under the supervision of the Board. The money furnished by the Government for primary education will be raised from \$500,000 to something more than \$1,500,000 a year. As soon as the Bill becomes a law, all the old

parochial schools will become national, and open to national inspection. Many of them will shortly be thrown on the rates, and so taken out of the hands of the Established Ministers. The Free Church will be only too glad to surrender its schools to the national system ; so will the United Presbyterians. Undenominational schools will be abandoned ; and if the national schools are what they ought to be, and most likely will be, the private-adventure schools will be virtually knocked on the head. *The Review*, indeed, finds it not difficult to predict that the national schools, managed and supported by the State, will speedily draw to themselves all the children within reach. The Episcopalian and Roman Catholic schools will probably remain outside the national system ; and so long as they keep to their own people, this may not be a serious matter. But if it be the case, as stated in the debate, that out of 6,000 children attending Episcopalian schools, only 2,000 belonged to that communion, and as the Duke of Argyle stated in one of his earlier speeches, that the children attending these schools are required to go through instruction in the Church Catechism, it is obvious that a stringent conscience-clause is necessary to secure freedom of Education in these schools so long as they receive Government aid. And that clause is left intact in the Bill.

VICTORIA.—In "Greater Britain" the somewhat philosophical author contrasts this colony with the mother country in regard to education, "One of the best features of the colonial democracy," he says, "is its earnestness in the cause of education. In England it is one of our worst national peculiarities that, whatever our station, we either are content with giving children an 'education' which is absolutely wanting in any real training for the mind or aid to the brain in its development, or else we give them a schooling which is a mere preparation for the Bar or the Church ; for it has always been considered with us that it is a far greater matter to be a solicitor or a curate, than to be wise or happy. This is, of course, a consequence partly of our aristocratic form of society, which leads every member of a class to be continually trying to get into the class immediately above it in wealth or standing. In the colonies as in the United States, the democratic form which society has taken has carried with it the continental habit of thought upon educational matters ; so that it would seem as though the form of society influenced this question much more than the energy of race, which is rather heightened than depressed in these new countries. The English Englishman says, 'If I send Dick to a good school, and scrape up money enough to put him into a profession, even if he don't make much, at least he'll be a gentleman.' The Australian or democratic Englishman says, 'Tom must have a good schooling, and must make the most of it ; but I'll not have him knocking about in broadcloth and earning nothing : so no profession for him ; but let him make money like me, and mayhap get a few acres more land.'

"Making allowance for the thinness of population in the bush, education in Victoria is extremely general among the children, and is directed by local committees with success, although the members of the boards are often themselves destitute of all knowledge except that which tells them that education will do their children good. Mr. Geary, an inspector of schools, told the commissioners that he had examined one school where not a single member of the local committee could write ; but these

immigrant fathers do their duty honestly toward the children for all their ignorance, and there is every chance that the schools will grow and grow until their influence on behalf of freedom becomes as marked in Victoria as it ever has been in Massachusetts. Education has a great advantage in countries where political rights are widely extended; in the colonies, as in America, there is a spirit of political life astir throughout the country, and newspapers and public meetings continue an education through life, which in England ceases at twelve, and gives place to driving sheep to paddocks, and shouting at rooks in a wheat-field."

CURRENT PUBLICATIONS.

FEW if any works designed to show one-half the world how another half lives, are more entertaining and instructive than Wallace's "*Malay Archipelago*,"¹ the popular fruit of some eight years of wandering "at the gateways of the day." The author's chief purpose was the collection of specimens of natural history. That he did not fail of it is evident from the fact that in the course of his sixty or seventy journeys within the Archipelago, of an aggregate length of some fourteen thousand miles, he collected and sent home in good order 310 specimens of Mammalia, 100 of Reptiles, 8,050 of Birds, 7,500 of Shells, 13,100 of Lepidoptera, 83,200 of Coleoptera, and 13,400 of other insects, very many of which were entirely new to science. The story of his travels is pleasantly told, and full of instruction and entertainment. His observations of man and nature show all the keenness of a practiced naturalist. His descriptions of the different races which inhabit the Archipelago, their mental and moral condition, habits, and customs, etc., are particularly interesting, especially as they quite reverse our previous notions of races known to us heretofore chiefly as pirates and head-hunters. The last chapter, which is devoted entirely to this subject, closes with a brief comparison of civilized with savage life, suggesting some points on which the author thinks that the civilized can learn something from the savage man.

"We most of us believe," he says, page 596, "that we, the higher races, have progressed, and are progressing. If so, there must be some state of perfection, some ultimate goal, which we may never reach, but to which all true progress must bring us nearer. What is this ideally perfect social state toward which mankind ever has been, and still is tending? Our best thinkers maintain that it is a state of individual freedom and self-government, rendered possible by the equal development of the intellectual, moral, and physical parts of our nature,—a state in which we shall each be so perfectly fitted for a social existence, by knowing what is right, and at the same time feeling an irresistible impulse to do what we know to be right, that all laws and all punishments shall be unnecessary. In such a state every man would have a sufficiently well balanced

¹ *The Malay Archipelago: The land of the Orang-utan, and the Bird of Paradise. A Narrative of Travel, with Studies of Man and Nature.* By Alfred Russell Wallace. New York: Harper & Brothers. Crown 8vo, pp. 638. \$3.50.

intellectual organization to understand the moral law in all its details, and would require no other motive but the free impulse of his own nature to obey that law.

“Now it is very remarkable that among people in a very low stage of civilization, we find some approach to such a perfect social state. I have lived with communities of savages in South America and in the East, who have no laws or law courts but the public opinion of the village freely expressed. Each man scrupulously respects the rights of his fellow, and any infraction of those rights rarely or never takes place. In such a community all are nearly equal. There are none of those wide distinctions of education and ignorance, wealth and poverty, master and servant, which are the product of our civilization; there is none of that wide-spread division of labor, which, while it increases wealth, produces also conflicting interests; there is not that severe competition and struggle for existence or for wealth, which the dense population of civilized countries inevitably creates. All incitements to great crimes are thus wanting, and petty ones are repressed, partly by the influence of public opinion, but chiefly by that natural sense of justice and of his neighbor's right, which seems to be in some degree inherent in every race of man.

“Now, although we have progressed vastly beyond the savage state in intellectual achievements, we have not advanced equally in morals. . . . It is not too much to say that the mass of our populations have not at all advanced beyond the savage code of morals, and have in many cases sunk below it. . . . Our vast manufacturing system, our gigantic commerce, our crowded towns and cities, support and continually renew a mass of human misery and crime *absolutely* greater than has ever existed before. They create and maintain in life-long labor an ever increasing army, whose lot is the more hard to bear, by contrast with the pleasures, the comforts, and the luxury which they see everywhere around them, but which they can never hope to enjoy, and who, in this respect, are worse off than the savage in the midst of his tribe.

“This is not a result to boast of, or to be satisfied with; and until there is a more general recognition of this failure of our civilization—resulting mainly from our neglect to train and develop more thoroughly the sympathetic feelings and moral faculties of our nature, and to allow them a larger share of influence in our legislation, our commerce, and our whole social organization—we shall never, as regards the whole community, attain to any real or important superiority over the better class of savages.”

Many of the purely scientific results of Mr. Wallace's travels had already been made public through scientific periodicals; but that will detract nothing from the popular value of this narrative. The work will be read and enjoyed by hundreds who care little for the problems which Mr. Wallace's observations go so far toward solving. The book is handsomely brought out and illustrated by maps and many fine engravings.

Two valuable aids to the study of the Bible have recently been published; the one,¹ designed to be a text-book illustrative of Old Testa-

¹ The Old Testament History. By Wm. Smith, LL. D. New York: Harper & Brothers, 1869. 12mo, pp. 215.

ment history, extending from the creation to the return of the Jews from Babylon. This volume contains, besides the text and necessary explanations and notes, forty or more illustrations, several maps, chronological tables, tables of weights and measures, etc. It is an excellent work for the use of Bible-classes and Bible-readers generally. The other volume,¹ the English edition of which has been before the public for several years, is one of the best helps that we know of, to a connected view of the narratives given in the Gospels. The various accounts of events in Christ's life are arranged together in the order of their occurrence, and connected by an original but very simple device, so as to form out of the four Gospels one continuous narrative. The volume is enriched with maps, illustrative of Scripture quotations, judicious expository notes, and practical reflections. It is very neatly issued in bevelled boards. The only drawback from the enjoyment of reading it, as in former editions, is the extreme fineness of the type.

To be familiar with the elements of arithmetic and grammar, and the other branches of knowledge that are commonly made the basis of primary education, is one thing; to understand the human mind,—its nature and relations to the bodily organism, the order and methods of the development of its several faculties, and the appropriate exercises for each,—so as to be able to employ the means at command to secure the most rapid and healthful mental growth and culture of children, is another, quite different, and vastly more important thing to the teacher. The first is the qualification of the instructor; the second, that of the educator. The first knowledge is general and easily obtained. The second is professional; and since the professional literature of education is meager, and for the most part barren and unphilosophical, it is no easy matter for the young teacher to qualify himself to be a genuine educator. Every conscientious teacher knows to what a painful extent his first efforts, and his last too, for that matter, were made as it were in the dark. What would be the effect of any course upon the minds of his pupils, he could never tell until he had tried it, perhaps with disastrous results. He must feel his way along where a misstep may prove, not his own, but his pupil's ruin. The ordinary works on mental science cannot help him much. The mind they treat of is not the mind he has to deal with. The laws of mental action laid down in them, their generalizations concerning the powers and capabilities of mind matured, may and frequently do lead him astray when he attempts to follow them in dealing with the undeveloped minds of childhood. He needs to know, not so much the character and working of the philosopher's mind, as the nature and processes of the mind's development, and how to reach mind most effectively through the avenues of sense. For this there is no work that will help him more than Bain's "*Mental Science*."² Without being intended as such, it is by far the best teacher's text-book published. Indeed, in our opinion, a thorough mastery of it by the common-school teachers of the country would do more toward correcting the faults of current methods

¹ *The Gospel Treasury and Harmony of the Four Evangelists*. By Robt. Mimpriss. New York: M. W. Dodd. Two vols. in one; 12mo, pp. lxi., 336; xxviii., 519.

² *Mental Science: a Compendium of Psychology, and the History of Philosophy*. By Alexander Bain. New York: D. Appleton & Co.

of instruction, and putting the art of teaching on a philosophical basis, than all the Normal schools and teachers' institutes ever established. As a class-book for ordinary students we should much prefer it to any other.

THE silliest specimen of silly preaching that has ever come to our table is No. 9 of Tracts for the People, a series discourses entitled "Woman as God made Her,"¹ to which is added "Woman vs. Ballot." Superadded by the publishers is a printed slip containing a fulsome puff, which we are considerably told may be of service to us in preparing a notice should our time not admit of a careful perusal of the book. From this convenient paper we learn that the author is "the popular, wide-awake Pastor of Tremont Temple Church, Boston;" and that "he presents his views in the pungent epigrammatic manner characteristic of him either as pastor or author." *God knew Eve, for he built her*, is a sample; we choose it simply because it is the first sentence we saw on opening the book. It is mildly characteristic. We might quote others that are offensively so. Had this "wide-awake pastor" been the chief counsellor of the Almighty from the beginning of time, he could not speak more positively of God's plans and purposes; and what makes his assertions the more offensive, is his apparent belief that his nonsense is Divine wisdom.

THE same subject is discussed, though in vastly different style, by Mr. Bushnell, in his work² on Women's Suffrage, to which he gives the sub-title, "The Reform against Nature." Mr. Fulton's manner, as we have been told, is pungent and epigrammatic: Mr. Bushnell's, on the contrary, is dignified, ponderous, and seemingly logical. Unfortunately for his argument however, Mr. Bushnell betrays the preacher oftener than the philosopher, and too frequently assumes the very things that need to be proved. A little sense of the ridiculous, we fancy, would have prevented his saying a good many things that we doubt not will be pitched upon for merry-making by sharp-witted women, who will not long refrain from pricking the bladders of assumption that float him so serenely over the difficult parts of the subject.

BOOKS RECEIVED.

Harper & Brothers: FIVE ACRES TOO MUCH. By ROBERT B. ROOSEVELT. 12mo, cloth, \$1.50.—THREE SEASONS IN EUROPEAN VINEYARDS. By WILLIAM J. FLAGG. 12mo, cloth, \$1.50.—SIGHTS AND SENSATIONS IN FRANCE, GERMANY, AND SWITZERLAND. By EDWD. GOULD BUFFUM. 12mo, cloth, \$1.50.—THACKERAY'S NOVELS: Cheap Edition, with Author's Illustrations. 8vo, paper. VANITY FAIR, 50 cents; THE VIRGINIANS, 75 cents; THE NEWCOMES, 75 cents.—HE KNEW HE WAS RIGHT—Part II. By ANTHONY TROLLOPE. Paper, 50 cents.—THE SACRISTAN'S HOUSEHOLD. By the author of MABEL'S PROGRESS. 75 cents.—STRETTON. By HENRY KINGSLEY. 40 cents.—FOR HER SAKE. By FREDERICK W. ROBINSON. 75 cents.

C. Scribner & Co.: WOMEN'S SUFFRAGE: the Reform against Nature. By HORACE BUSHNELL. 12mo, cloth, \$1.50.—PRACTICAL COMPOSITION, with Models and Exercises. By MRS. MARY J. HARPER.

Oakley, Mason & Co.: FIRST STEPS IN GERMAN: an Elementary Grammar and Conversational Reader. By M. TH. PREU.

E. Steiger: AHN'S NEW PRACTICAL AND EASY METHOD OF LEARNING THE GERMAN LANGUAGE, with Pronunciation. By J. C. OEHLSCHLAGER. Revised Edition. \$1.

J. B. Lippincott & Co.: IMPROVED MODERN POCKET DICTIONARY OF THE FRENCH AND ENGLISH LANGUAGES. By FERDINAND E. A. GASC.

¹ Woman as God made Her: the True Woman. By Rev. J. D. Fulton. Boston: Lee & Shepard. 16mo, pp. 48; paper, 50 cents; cloth, \$1.

² Women's Suffrage: the Reform against Nature. By Horace Bushnell. New York: C. Scribner & Co.

WORMAN'S DEFENCE.

EXAMINED BY PROF. GUSTAVUS FISCHER.

MESSRS. BARNES & Co., the publishers of Worman's so-called German Grammar, in their and the author's name, have come out with a defence, in which they try to refute the charges of ignorance, recklessness, plagiarism, and unadaptedness of the exercises, which are contained in our first criticism. We must presume that what they have presented in this sheet is all they have to say in Mr. W.'s defence; for they have wasted about three-fourths of the available space with personal invectives, general testimonies, and advertisements. We shall therefore sum up, as it is the duty of the "Public Accuser," to enable the literary public to pass final judgment on the merits of this remarkable volume.

We first demand judgment in default against the defendant, in regard to the following charges, to which he has not replied at all:

1) That Mr. W. does not know how to use the German article, since he has expressly declared the phrase „zur selben Stunde“ to contain no article. 2) That he does not know how to employ the German pronouns, since he has used „Was Edelstein!“ in the sense of "what quantity of jewels;" since he has proposed as a model the sentence: „Dieser Mann wegen wir nach Berlin reisen;" since he sanctions by rules the misapplication of the relatives *das* and *welches* in the phrases *Alles das*, *vieles das*, and *dasjenige welches*; since he assigns preposterous significations to the indefinites *ein anderer*, *viel* and *wenig*, and since he shows that he does not know what a reflexive pronoun is, by confounding the emphatical and the reflexive English pronoun *himself*. 3) That he does not know how to conjugate the most common verbs, since he uses imperatives like *nehme*, imperfects like *roch* (from *rächen*), *vermorr* and *beflomm*, denying the existence of the imperative *wolle*, of the passive *gelehrt werden*, declaring *sendete* to be a poetical imperfect, and giving faulty rules about the most common personal forms of the regular verb (regarding the use of the vowel *e* in the personal endings). 4) That he constantly misapplies and confounds the auxiliaries *haben* and *sein*. 5) That he has no idea about the use of the German cases, misapplying them in the most elementary constructions (*der Hund hat mir in den Fuß gebissen*; *ich habe dieser That gehört*), and being unable to distinguish a dative from an accusative, when both have the same grammatical form (*die Blumen zeigen uns eine Schönheit*, where he declares *uns* to be an accusative). 6) That he misapplies and faultily construes the German prepositions (*bis am hellen Morgen*, *er sitzt nicht zu meinem Unkel*, &c.). 7) That he misapplies adverbs and especially that of negation (his explanation of *Er kann eine Frau nicht ernähren*, *das Haus ist zweifellos niedergebrannt*, &c.). 8) That he cannot distinguish between Indicative and Subjunctive, when both have the same grammatical form, declaring the words *schienest* and *ich nehme* Subjunctives, where they are clearly Indicatives. 9) That he cannot distinguish between Subjunctive and Conditional, mixing up both moods (*Meine Kinder würden Spielzeuge haben, wenn sie spielen würden*). 10) That he persistently misapplies the German Tenses (*seitdem ich auf's Land ging*, &c.). 11) That he cannot analyze the plainest sentences, mixing up the different clauses of plain propositions in the wildest manner (several most striking and almost incredible examples having been quoted). 12) That he is unacquainted with the meaning of the most common words (*Kruzifix*, *unternehmen*, *geschehen*, *Jaun*, *sich schicken*, *um'gehen*, &c.), and introduces impossible words in the language (*hinter'gehen* in the meaning *go behind*, *ringen* in the meaning *to ring the bell*). 13) That he misrepresents many rules on pronunciation and orthography. 14) That he has shown the most unpardonable recklessness in copying Otto's rules (for instance, in leaving out in the midst of a chapter a whole page, bringing thereby the subject into total confusion. 15) That he has committed a still less pardonable carelessness in preparing his exercises.

We might very properly stop here, For there is no literary court in the world that would not convict of utter incapacity a man, not denying to be guilty of any or all of these blunders, even if corrected afterwards. But the defence has tried to

dodge the main question, making the reader believe, that after correcting however great a number of blunders, the book would be still available as a grammar, especially as the many excellent points of the work had been disingenuously and ungenerously concealed by the reviewer. To dispel these illusions we have written our second article, in which we have abundantly shown that the book is nothing but a blundering compilation and preposterous arrangement of some badly expressed rules on German grammar, with an original addition of the most startling nonsense that ever was inflicted on a maltreated language; that whatever there might be of correct rules was made completely unavailable by an unexampled prolixity and confusion. Thus we might even in regard to these points stop short, and leave it to those teachers who, nevertheless, are resolved on using the book, to buy their own experience, had not Mr. W. himself in his reply taken exception to our withholding due acknowledgment from several prominent and really excellent parts of the work, which he himself takes care to point out. We shall directly see, whether or not Mr. W. ought to have been rather thankful to us, for omitting to speak of those parts of the work, which he seems to admire so much.

He says: *The reviewer quibbles¹ about a mistake in the description of the adverb wann (p. 835), and is not candid enough to state, that the foot-note on the same page clearly shows Mr. Worman to be the first Anglo-German grammarian to treat this matter correctly—comp. Woodbury, Ahn, Otto, p. 267—all of whom have neglected to make the distinction in the use of wann and wenn.*

Now let us compare Otto's and Worman's statements;

OTTO, p. 267.

The English conjunction² *when* corresponds with three German words, viz.: wann, wenn, als.

a. Wann.

1. Wann is interrogative in direct and indirect questions, Wann werden Sie kommen, when will you come? Sagen Sie mir, wann Sie kommen wollen, tell me when you will come.

2. Wann answers to the English *when-ever*, as: Sie können es schicken, wann Sie wollen, you may send it when (whenever) you like.

b. Wenn.

1. Wenn in a conditional sense is *if*. When used with an Imperfect tense, this must be in German in the Subjunctive mood, as: Wenn Sie nicht kommen können, if you cannot come. Es wäre mir lieb, wenn er käme, I should be glad, if he came.

2. Wenn answers also to the English *when*, used with a present or future tense, and is therefore peculiarly fitted to convey general ideas, whereas als re-

WORMAN, p. 835.

VI. Wann, wenn, als.

To the English CONJUNCTIONS *when* correspond three words in German, which are

1. Wann, the interrogative conjunction of Time; e. g., Wann werde ich dich zu Hause finden? when will I find you at home?

2. Wenn, the conjunction of Time, referring to events *supposed to occur*; e. g., Wenn der Lehrer kommt, laß mich ruhen, when the teacher comes, call me.

REM.—Wenn is used also as a conjunction of *condition*, answering to the English *if*; e. g., Wenn du krank bist, schreibe mir, if you are sick, write me. When used with a verb in the imperfect, it must be in the subjunctive mode; e. g., He would be glad, if she came, es wäre ihm lieb, wenn sie käme.

3. Als, the conjunction of time past; e. g., Als ich krank war, kam er täglich zu mir, when I was ill, he came daily to me.

REM.—Da (which is synonymous with als) the conjunction of time past, and

¹ He calls it quibbling, when we find fault with him, because in the very rule, where he ought accurately to distinguish between the adverb *when* and the conjunction *when*, he speaks only of a *conjunction when* and of a German conjunction wann, while he means the *adverb wann*.

² We see that Otto also calls the word *when* a conjunction, even where it is an adverb. Thus the source of Mr. W.'s blundering terminology is not difficult to find out.

lates to a particular event. As often, therefore, as *when* is connected with a Present or Future it is to be translated in German *wenn*, as: *Wenn ich an der Arbeit bin, liebe ich keine Besuche*, when I am at work, I do not like visitors. *Wenn die Leidenschaften heftig sind, so ist die Tugend in Gefahr*, when the passions are violent, virtue is in danger.

e. Als.

Als refers to a particular event which is *past*, and requires the verb in the Imperfect or Pluperfect, *Als ich krank war, schickte ich nach dem Arzte*, when I was ill, I sent for the physician.

cause or either; *e. g.*, *Da (als) er nach London kam, so fand er eine Stellung*, when he came to London, he found a situation. *We prefer als, but as da is sometimes used, we mention it in this connection.*

*Foot-Note.*¹ *Wenn* and *wann* are frequently used without discrimination one for the other. So are *benn* and *bann*. But the application "of them" is *decidedly fixed* as given above, and *benn* must be used only as a conjunction of cause—*bann* as an *adverb of time*.

Who does not see at the first glance, that Mr. W.'s statements are virtually a garbled and corrupted copy of Otto, and that his boast of originality is utterly unwarranted? Whatever may be the merits of Otto's statements, they are certainly clearer and more practical and correct than Mr. Worman's, whose additions and omissions are in keeping with all his other improvements—*i. e.*, they are monstrous. His sole remarks on *da*, the blundering use of *so* in the example, and his vaunted foot-note, (in which he virtually says, that *wenn* and *wann* are frequently used *without* discrimination, but that nevertheless they are "decidedly" and "fixedly" used *with* discrimination,) would be fully sufficient to condemn his book, if nothing but these passages were known of it. Our assertion, that not every one is able to be a decent plagiarizer, is thus brought home against Mr. W. with double force by his own defence, inasmuch as he is detected as a bungling plagiarizer in the very place where he proclaims his unappreciated originality as the first Anglo-German grammarian. We always find that real ignorance, if combined with brazen arrogance, is bent on mystifying others. True to its nature, it never sees that it is almost always exposing itself.

Prof. ———, of ——— College (who, as he assures us, has some reputation among local Teutons as a "Yankee" teacher of German), praises Mr. W.'s book on account of its "extreme *legibility*," and goes even so far as to eulogize it for its very blunders,² "*since examples are often rendered peculiarly available by an error.*"

Again, Mr. W. claims peculiar and original merit in his lesson on Adjectives (p. 126) and Numerals (p. 146). In the former we see nothing but an almost literal copy from Otto. It is treated very much the same as in all other grammars, only we see here, as everywhere else, Mr. W.'s rare ability to add in his peculiar lapidary style, whole masses of absurdities in two or three words, and his not less remarkable art to single out just the *essential* points for omission. The knowledge that he shows *outside* this copied lesson in regard to adjectives is very ominous. Thus he says, page 817, that the word *long*, in the sentence "*The street is long*," is an ADVERB (Prof. ———, of ——— College, will probably call this an "available" error; Mr. W. himself, a "typographical error," and Prof. Vordtriede, "no error at all," but a legitimate term; and hence Mr. W. will again see in our remark a mere "quibble"). In the lesson itself the very first Rule is incorrect. He says:

¹ This is the foot-note, by which, as he claims, it has been made clear, that he is the first Anglo-German grammarian who has brought light to this whole question.

² We remember that a certain duchess was said to have just faults enough to remind the world that she was not a goddess.

"Adjectives, when preceded by the definite article, or by *any* pronoun declined like the definite article, take the ending (*sic*) of the second declension."

Every German school-boy knows, that by no means every pronoun declined like the definite article requires the following adjective to be thus inflected. What he calls "second form" (Woodbury's mixed declension), is illogically placed before the third (Woodbury's old declension). In the paradigm of the old declension he copied from Otto the Genitive in *en* (inst. of *es*), and thus, by the change of one letter, spoiled and falsified a fundamental principle of the German language,¹ which must bewilder the student the more, as Mr. W. refers him for this irregularity to the Latin absolute Ablatives. The rule that after many "declined" pronouns (*alle*, etc.), the old declension must be used, which is duly given by Otto, is entirely omitted by our careful copyist. The peculiar usages of declension, when the adjective is preceded by Personal Pronouns, are not even touched by Mr. W. The paradigm *der edle Graf* contains the Gen. and Dat. *edlen*, which, according to Grimm and all other good grammarians, is *faulty*. The form *offne* (through a whole paradigm—instead of *offene*) is given as the *only* correct form. In regard to *hoch*, it is said that it changes the *ch* into *h*, when used as an attribute (in consequence of which we would correct Uhland's *des selben hoch und hehr* into *des selben hoch und hehr*²). In the same lesson we read the startling remark that *some* before a substantive is *never* translated in German, and that the neuter ending *es* is sometimes omitted in colloquial³ language. The formation of the civic adjectives and that of some national adjectives by *er*, and the remarkable fact of the indeclinability of this ending, is not even mentioned, while the ending *isch* is illustrated by twenty examples. In the declension of absolute adjectives we are not told when to use the one or the other of the three genders,⁴ nor are we informed when we may, and when we may *not* use the adjective without a noun in German.⁵ We are told that after *viel* and *wenig* the absolute adjective takes the neuter ending *es*, but are told nowhere that we generally cannot make such connections in English, and by what English forms we have to render this German idiom.⁶ Nor do we hear anything of the combinations *Viele Gute*, etc. But we are informed in a clever remark of a great advantage accruing to the German language by *not*⁷ having an equivalent to the English *ly*, or the French *ment*, or the Italian *mente* in the adverbs [other grammarians, as, for instance, Grimm and Whitney, consider it a *disadvantage*]. "*The adjective* (Mr. W. says) *is of greater importance than the adverb*,⁸ *which, becoming both to the eye and the ear the larger word, must "of course" lead us to believe it of higher importance.* Majestically, majestueusement, maestosamente sound surely more "*pompous*" than majestic, majestueux, maestoso." To cap the climax, we meet in

¹ Every one knows, that the best grammarians and authors, among others Jacob Grimm, *always* use the genitive in *es*, in the old declension, and that the wrong form in *en* is simply sustained by a lax usage.

² This is a very palpable illustration of our assertion, that Mr. W. knows how to give even to the most common-place rules a taint of corruption.

³ Herder, Wieland, Goethe actually oftener omit than use this ending.

⁴ So that it would be utterly impossible for the student to analyze the author's sentence: *Saben Sie Unterricht im Deutschen* (p. 138).

⁵ The reader will turn the whole book in vain for such a rule.

⁶ This is a good example of the careful comparison of English and German idioms, of which Mr. W. boasts so much in his defence. Other examples of a complete mixing up of English and German idioms are spread broadcast over the whole book.

⁷ Which is not even true, as Mr. W. easily may see from adverbs like *schwerlich*, *freilich*, *sicherlich*, *gewisslich*, &c.

⁸ What an idea must Mr. W. have of grammatical importance!

the exercises on this lesson the startling phrase „der effent Staden des graufamen Löwen“ [of course, *typographical*, Mr. Barnes would say]. Such is the stuff which Prof. ———, of ——— College, considers as extremely “legible,” philosophical, impressive, exhaustive, though brief [others would say: incomplete, though prolix], and which Mr. W. challenges criticism to acknowledge as being of especial and “original merit.” The reader will not be surprised to hear, that the Lesson on Numerals is, if possible, worse than that on Adjectives, and what indeed can we expect of Lessons *not* especially recommended by Mr. W., when those that he declares the best are so much beneath criticism, as that with which we had to weary the reader? And when Mr. W. is utterly unable to express the most elementary rules, what must be the condition of the rules on the uses of moods, tenses, construction of the verb, and dependent clauses?

Mr. W. complains of the severity¹ and “cruelty” of our language. But when a man, who himself needs a master, sets himself up as such, nay, as a grammarian, he makes himself simply ridiculous, and assuredly has no more claim to be treated with respect than any buffoon. Or did Mr. W. expect² that we should seriously quote “authorities” for such facts as these, that the gen. of Löwe is not Löwen, but Löwen; that bis an governs the accusative and not the dative; that the transitive verb schneiden governs the accusative and not the dative, and that hence we cannot say ich habe mir in den Finger geschnitten; that the word der Deutsche is an adjective and not a noun; that indefinite and absolute neuter pronouns are followed by the relative was, and not by das or welches; that in the adverb weßwegen the first component is the genitive of the neuter was, and hence cannot refer to *Persons*, that beßiß is an imperfect of beßeßen and not of beßeßigen; that vor is no adverb but a preposition; that an’gehen and über’setzen are neuter verbs and can consequently not be construed with an accusative; that ringen means to wrestle but not to ring; that the imperatives of nehmen and scheßen are not nehme and scheße, since strong verbs change the radical e into i in that mood;—and so on through almost every rule which German school-boys are taught in their seventh and eighth years? To argue any points seriously with a man who, in the face of such blunders, comes out with the claim to be the first grammarian of the time, would be just as much out of place as to discuss metaphysical questions with a madman. By doing this we would have only exposed ourselves to ridicule. Mr. W. and some of his endorsers consider the review as “cruel.” But he ought to reproach rather his folly, which made him appear as an author before the public, when he could have no creditable place on the forms of a boys’ school. For we did neither make nor misrepresent the facts on which we based our criticism. When the consequences that are drawn from them are damaging and humiliating, we certainly must not be reproached with it.

All the other “excellent” points of the work, which Mr. W. points out in his defence, are just so many blemishes. As for the “new” classification of nouns in four declensions, the rules on pronunciation, the complete and systematic treatment of the syntax, the frequent reference to the Greek, Latin, and French, and

¹ His terms are more extravagant, but we waive repeating them.

² He indeed declares that he expected we would communicate to him our criticism without publishing it. That would have been kind to Mr. W., but very cruel to the public, inasmuch as thousands would have been left to cruel disappointment. Moreover, it would have been of very little use. For the blunders registered in our articles form a very small fraction of those actually in the book. They do not count by hundreds, but by thousands.

the vocabulary,¹ we simply refer the reader to our first and second articles. The reading extracts to illustrate the rules in each lesson, of which he is so very proud, are worse than useless. So many new and complicated laws of the language, which it is impossible for the student to understand at the given place, are perpetually introduced in them, that the student's attention to what he has to learn in his lesson must necessarily be diverted. It is astonishing that even Mr. Worman did not see the folly of introducing pages of almost impossible reading, for the sake of having an opportunity to bring in two or three random applications of a certain lesson. At best, these reading lessons perpetually interrupt the course, and make the progress of the student (if there is any) tardy and doubtful, so that a systematic development of grammatical principles is out of the question. As for the introduction of heavy type to distinguish inflection, only a very superficial judge can be captivated by it. A student that cannot, without any external help, immediately distinguish the inflections from the stems, ought to give up his study. The heavy type of the inflectional endings will avail him very little. He will blunder just as much with as without them. Besides this, it is by no means a new thing. It has long been tried, as in Morris's and Smith's Latin grammars. But we are not aware that these books ever were deemed more valuable on that account. We should think just the contrary to be true. When always *external* helps point out the stem to the student, he will neglect to apply his own exertion for that purpose, and as organs by lack of exercise gradually become inert, so this heavy type will not be a help, but rather an obstacle to the student, whenever he has to analyze the more complicated verbal forms of his own accord.

We wish now Messrs. Barnes & Co. and Mr. Worman to learn how much weight they, by their very defence, have added to the charges of ignorance and incompetence of the latter.

1. Mr. W. is greatly incensed at our censuring his sentence, „Es waren mindestens tausend Leute dort.“ He says: *The worst blunder yet made is the criticism on Leute, "instead of Personen." The absurdity of the change suggested will be apparent to any schoolboy who has learned no language but his own. We translate Eberhard² in full:*

“The reasoning beings of our planet, considered as a whole, are called Menschen (men); their distinction of class is designated by Leute (people), Personen (persons), namely: Leute are men of a lower, Personen, of a higher class, &c., &c. “As the lowest classes are the most numerous, and are not found in small but “in large numbers, we call a crowd of Menschen, without regard to class, Leute.”³

Notwithstanding this execrable translation, every one will see that the words which are put in Eberhard's mouth have no bearing at all on the question, whether it was proper for Mr. W. to connect the definite numeral 1000 with the

¹ It would be very difficult for Mr. W. to point out a single page of this vocabulary, especially the English and German, being without several palpable blunders.

² It strikes us, that Eberhard is not generally studied by schoolboys. Mr. W. is, from natural reasons, very little acquainted with the studies of German schoolboys.

³ We ought not to let the stigma of so much nonsense, which is brought on Eberhard by Mr. W.'s bungling and almost in every word faulty translation, rest on him. But we have no space for this, and remark only that Eberhard says: eine Menge Menschen, unter denen man keinen unterscheidet, which means: *a number of men, among whom no distinction of individuals is made*, while Mr. W. translates it by: *a crowd of Menschen, without regard to class*. Whether this totally erroneous translation is owing to ignorance, to disingenuity, or to both, may seem doubtful; but the one is just as probable as the other.

noun *Leute*. This question evidently was not present to Eberhard, even if we consider the correct version (see the last foot-note) as the proper definition of the word.¹ This question can only be decided by a more accurate definition of the word, which we find in Becker, § 134, who says: *Leute* brüdt eine unbestimmte Mehrheit von Personen auf die allgemeinste Weise aus (*Leute* denotes an *indefinite* number of persons in the most general manner). It is evidently the idea of *indefinite* number which lies in *Leute*, and which distinguishes it from *Personen*. This has been felt, but not correctly expressed by Eberhard. Thus Becker says in his larger grammar (I., 285): By the expression *Leute* men are considered as a quantitative idea, as a material (*stoffartig*). Hence we cannot connect *Leute* with definite numerals, since this would be contradictory to the idea of indefinite number, inherent in *Leute*. Had Mr. Worman a little more knowledge of the language, he might have seen this from his own definition of *Leute*. He himself says, p. 64: *Leute expresses the plural of persons in a very indefinite manner*, where he evidently meant to translate Becker, but mutilated him (as usually) by translating Becker's *unbestimmte Mehrheit von Personen* in a blundering way, imagining that Becker used the word *Mehrheit* in the frequently occurring acceptation of "plural." But his translation, faulty as it is, is yet more to the point than Eberhard's, and but for his almost judicial blindness, he might have found it out, without our telling him.²

2. Our remark that Mr. W. knows nothing about the very word "*deutsch*," could not have been proved better, than by his defence. He says:

"The challenger delivers a left-handed blow, which returns to wound his own shins, by *misquoting* Mr. W. as follows: 'National nouns,' he says (he says "national masculine appellations, but he *means* national nouns) 'are formed from the names of countries, &c.' Now Mr. W. not only says, but means to say, 'national appellations,' which may be either nouns or adjectives. Yet the critic gravely proceeds to deduce from his own premises, thus summarily established, that the author does not know that his national appellation is "an adjective."

We request now the reader to open p. 73 of Mr. W.'s revised edition. There he says: *National masculine appellations are formed from the names of the respective countries, by modifying the last radical vowel, and adding er. They are declined like common nouns.* When Mr. W. meant by national appellations both nouns or adjectives (as he coolly asserts), his rule would be this, that *both*, national nouns and adjectives, are formed by *er*, which would make his nonsense of the first power a nonsense of the third or fourth, and would be in direct contradiction to his rule, p. 134, according to which national adjectives are formed in *isch*. Thus Mr. W. will, if he belongs to Eberhard's "reasoning beings," willingly acknowledge that we again have not *misquoted*, but rather defended him against himself. He continues: "*The following are formed irregularly, and end in e: der Deutsche, der Russe, der Franzose, &c.*" From this it very clearly follows that Mr. W. took indeed *der Deutsche* for a noun just as much as *der Russe, der Franzose*. Now he says in his defence: "*The absence in this place of the form used with the indefinite*

¹ That the distinction drawn by Eberhard, who wrote a hundred years ago, between *Leute* and *Personen*, is unjustifiable, becomes evident, when we compare the two terms *Ebelleute* (noblemen) and *Weibspersonen* (females of lower order). Hence the difference between both terms can under no circumstances be found in a distinction of *rank*.

² Mr. W. ought not to say that we do not acknowledge his merits; we are evidently more liberal to him, than he is himself. He prefers Eberhard to himself, and we him to Eberhard.

article (ein Deutsche) seems to trouble the critic, yet if he will search a little farther on (p. 135), he will find the use of adjectives with full explanation."

Now, on page 135 stands simply the declension of absolute adjectives. But it evidently does not follow from this that Mr. W. took the word *der Deutsche* for an absolute adjective. If he had, he would have explained its declension at this latter place, and not among the nouns.¹ He continues, p. 74: "*National feminine appellations are formed by adding in, as: die Engländerin.*" He will by this time no more deny that he said "national feminine appellations," but meant the feminines of national nouns. And yet he makes the regular feminine *adjective* *die Deutsche* an exception from this rule on the formation of the feminines of national nouns. He accordingly must have had the idea that this word, if regularly formed, would be: *die Deutschein*. He himself shows by printing his and Otto's rules, that he has taken this startling exception from Otto, who was unquestionably the first Anglo-German grammarian that invented this sublime nonsense. Nevertheless, he persists that he has *not* transcribed it from him, and is indignant at our making such insulting imputations. Thus he appears to imply that each invented this absurdity independently of the other. It strikes us, that the struggle for priority of invention will not be very hot between these two worthies.

3. In regard to his compound *Uhrenschlüssel* he remarks: "It is a form which finds authority in a custom permitting the formation of a plural to either component," which evidently is only a clumsy expression for "the attaching of the plural ending to either component." Thus he restricts this form to the *plural*, and says: Sing. *Uhrschlüssel*, plur. *Uhrenschlüssel*; sing. *Hausthür*, plur. *Hauserthür* or *Hausthürn*; or in English, sing. *bulldog*, plur. *bulldog* or *bulldogs*. Mr. W.'s cure is a good deal worse than his disease. Our repeated assertion, that Mr. W. is utterly incompetent to write a German or any other grammar, is in our opinion proved by *himself*, with irrefutable, mathematical strength. Prof. Julius Vordtriede, whom Mr. W. introduces as his "ally," says: *Uhrenschlüssel does not show that the author cannot form compounds, as it is not formed against the rules for the formation of such words: Compare Urenkunst, Kirchenthür.* Prof. Vordtriede wisely abstains from mentioning "the rules for the formation of such words." He himself knows (as it appears from the clever wording of this objection), that, although there are some *general* rules for this subject, it is utterly impossible to class any given compound under a particular rule *a priori*, and that the *first* rule for the formation of compounds is this, to *know to which of the different categories of compound nouns usage has assigned the given word.* This Mr. W. did not know, since the word *Uhrschlüssel* is unquestionably formed without a connecting letter. Why this is so, neither I, nor Prof. Vordtriede, nor Jacob Grimm can tell. We can say *Uhrenschlüssel* just as little as we can say *Fürstthum* (which is theoretically more correct) instead of *Fürstenthum*, or *Handeschrift* instead of *Handschrift*.

4. We objected to Mr. W.'s sentences: *Welches Metall ist am härtesten; welches Volk war am tapfersten.* He says in his defence:

"*Am härtesten* is entirely correct and regular. Comp. Woodbury, p. 110-12. Douai, § 194, and Otto, p. 112. Only one of these authorities (Douai) *permits* the form *baß härteste*, on which the critic insists. Tiarsk says: When the superlative of comparison is used as a predicate, the preposition *an* coalesces with the definite article *dem* into *am*, and gives the example: *Die Lage sind im Winter am fürtesten.*"

¹ According to Mr. W. every student must evidently say *ein Deutsche* in connection with the indefinite article.

We do not wonder that Mr. W. does not even now understand, why the expressions censured by us are faulty. We did not say that the form of the adverbial superlative with *am* is everywhere wrong in the predicate, but we said that this superlative is incorrect in Mr. Worman's two sentences. Becker, who gives the rule correctly, says, § 214 (7th edition): *If the predicate is expressed by the superlative of an adjective, the superlative always takes the definite article, as: Des Himmels Fügungen sind immer die besten. The adverbial form of the superlative with an is used only then, when the superlative does not imply a comparison of the subject with other subjects, but a comparison of an adverbial circumstance, for instance of time or place, with another time or place, as: Die Tage sind um Johannis am längsten.* Thus the sentence quoted by Tiarsk is right; but Mr. W.'s sentences, which contain no adverbial circumstances whatever, are wrong. This rule, the correctness of which has been disputed by no grammarian yet, least of all by the gentlemen quoted by Mr. W., was evidently unknown to Mr. Worman, and he has thus again himself established his astounding ignorance in German grammar.¹

5. The way Mr. W. tries to defend his „Spielzeuge“ is this: „Sanders, the great German lexicographer, does not agree with him, and gives this quotation from Wieland: „Von den Spielzeugen und Kurzweilen unserer Kindheit.““ By this quotation from Sanders, Mr. W. has simply made himself guilty of a corruption of his witness. For not only Sanders, but all other lexicographers, declare the *singular* Spielzeug a collective noun, respectively a noun denoting an abstract quantity (for which in English we must use the *plurals* playthings or toys.) The plural of such nouns is, according to all grammars (even Mr. W.'s so-called one), generally inadmissible, and may only be formed to express several kinds of the quantity in question. Only to this use of the word Spielzeug (several kinds of toys) refers Sanders, as he expressly says, by the alleged example of Wieland, which is also evident from the other plural Kurzweile. Now in Mr. W.'s sentence the word Spielzeuge is not used in this meaning, but in the signification of the singular Spielzeug, and is consequently a solecism. Hence Mr. W. has added by his defence another proof of ignorance or of gross disingenuity.

¹ We cannot pass by this opportunity, without reflecting on the uncritical way in which Mr. Worman is conducting his defence. The quoting of so-called authorities on the part of an attacked grammarian is utterly out of place and taste. The authorities of a grammarian are not other grammarians or lexicographers. These are at the utmost fit to serve as *prima facie* evidence. But they can prove nothing whatever, since *they* do not make the language, and one authority may be in conflict with another. Mr. W. ought to understand once for all, that an attacked grammarian cannot successfully defend himself otherwise than by abundant *vouchers*, taken from the classical writers. He is a sorry piece of a grammarian who has not extracted his authors for many years before attempting to prepare a grammar. If he has omitted to do this (and this is evidently the case with Mr. W.) he tacitly acknowledges that he has no idea whatever of his duties as a grammarian, and that he is utterly unworthy of being treated with that respect which even the errors of a careful scholar always will command. But to cite, when he is struggling for his literary life, names as Otto, Tiarsk, Adler, Flügel, is just as absurd as it would be for a criminal to prove his innocence by an accomplice. However, we shall not ask of our defendant things of which he evidently never has thought. Only we cannot allow him to cite „Anglo-German“ lexicographers or „so-called“ grammarians to prove the correctness of his bungling language, when it is condemned by the most unquestionable authorities.

² Which means: of the playthings and pastimes of our childhood.

6. The neuter gender of *Thermometer* and *Chor* he defends thus :

"We regret that his Latin has so soon forsaken him. *Thermometer* is derived from "Latin *termometrum* (*sic*)—neuter, of course—or Greek θερμη (heat), and "μετρον (measure), making τὸ θερμόμετρον, neuter again. Furthermore ADLER "gives the noun as neuter. Das *Chor* is *not* found in the vocabulary."

Mr. W. forgets here that he himself says that the Hollander Drebel *invented* the thermometer, and that this gentleman lived quite a while after the Latin time. *Thermometrum*, therefore, neither is nor *can* be a Latin word. If any one would form the word now, it must be thermometer, Gen. *tri*, after the analogy of *hexameter*, *bimeter*, *geometer*, &c., and this word, which does not mean a measure, but a *measurer* of heat, is unquestionably a *masculine*. Nor does a word θερμόμετρον exist in Greek. When we want to form a Greek word of this meaning, it would have the neuter form, according to the analogy of ἐξήμετρον. But from this it does not follow that the German word must be a neuter, since the German gender (as in the words *Hexameter*, *Pentameter*) follows the Latin and not the Greek. Therefore we find the masculine gender in all lexicons (Sander, Lucas, and others) of note, and so it is used by all accurate scientific writers, as Humboldt, Goethe, Gehler. That Adler declares the word a neuter (which may be the case) makes not the slightest difference. The word *Chor* certainly stands in Mr. W.'s vocabulary as neuter (*s. v.* choir), and is an undoubted masculine, since it comes from the Latin *chorus*.

7. Mr. W. denies that he has declared the word *die Juden* to be a collective noun, but has, he says, inadvertently used the word in an exercise to illustrate a rule which refers to collective nouns. Let us stop here a little. Mr. W. says, p. 394, in his *rules* (not exercises, as he falsely asserts): § 37. *A collective noun may in German as in English be represented by a pronoun in the plural, as: Die Juden sechten tapfer für ihre Rechte, the Jews are fighting bravely for their rights.* By this rule Mr. W. has very distinctly declared the word *die Juden* to be a collective noun. But how did he come to this startling rule? For who ever heard that German collective nouns may be represented by *plural* pronouns (for instance: das Volk hat ihr Vaterland verteidigt)? We will show the reader the secret origin of this fine rule, and at the same time shed some light on the *inadvertency* of the example. Mr. W. found in Gaspey's or another English grammar the well-known rule for the agreement of pronouns with their antecedents in the plural, when the antecedent is a *collective* noun. He wondered what a collective noun might be, and whether such a rule might not also "work" for his German Grammar. He consulted Becker.¹ There, to be sure, he found what he wanted, a rule for collective nouns, and the words "agree" and "plural" in it. Becker says, in § 214: *When the Predicate is expressed by a collective noun, it often may NOT agree with the Plural of the subject, as: Die Juden waren ein halsstarriges Volk (the Jews were a stiff-necked people).* This rule of Becker's he utterly misunderstood and expressed it, as shown above.² Since he found no pronoun in the example, he changed the latter into "the Jews are fighting bravely for *their* rights," taking evidently not the word *Volk* (people), but the word *Jews* for the collective. Thus he dropped the genuine

¹ Becker has so often played him tricks, that by this time he must have lost all confidence in him.

² We are already familiar with translations of Mr. W.'s that are worse than this, if possible.

collective, and retained the counterfeit one, and the fruit of this nice manipulation is a rule and an example,¹ the former of which bids defiance to all other rules of the language, and the latter again to the former itself. It is a true image in detail of what the whole of Mr. Worman's syntax is in the average—namely, a barefaced falsification of the German tongue. So much for Mr. W.'s inadvertencies.

8. We objected to an English sentence in his exercises, with the words "to speak French," because the student never had been shown how to translate it, intimating that he would either translate *französisch* or *französischē*. To this Mr. W. replies that then the student would not have been benefited by the rule on national adjectives, p. 134. But on this page nothing else is said, but that national adjectives are formed by the ending *isch*, while here the question arose what *inflection* should be given to this termination? In English the word *French* in the mentioned phrase is an ADJECTIVE, used substantively, of which Mr. W. says (p. 135), that they have the same inflection as other adjectives. But, since he nowhere says what *gender* must be given to the substantive-adjective, the student, when he tries to find the correct gender of his own accord, will necessarily be doubtful, whether he has to use the feminine, supplying "language" (*die Sprache*)—and then he will employ the form *französischē*; or the neuter, applying Mr. W.'s nice rule, p. 80, 3, and then he will use the form *französischē*. That the student must use neither the one gender, nor the other, but must use an ADVERB, he certainly cannot *guess*, and the author does not tell him so in any place of his grammar. Mr. W. *now* shows *why* he did not tell, namely, because he does not know it himself. For if he know, he would at least have known the *reason why* the student could not have translated the quoted phrase correctly.

9. We quoted the phrase, "*He is never believed*" as one which the student necessarily would translate incorrectly by *Er wird nimmer geglaubt*, according to Mr. W.'s grammar. To this he replies thus in his defence: "This is a sentence of the critic's own. Mr. Worman's" (he always *will* speak of himself in the third person) "sentence is: *Never lie, for he who lies once is never believed.*" But the very words quoted by us clearly stand in the same order in Mr. W.'s sentence, and as we did not object to the rest, of what use was it to give the preposterous sentence with its Jewish morality in full? Mr. W. continues: "*The passive form, 'is believed,' as the author uses it* (he very likely means "translates it"), *is given on p. 170.*" But on this page stands absolutely nothing referring to the sentence in question, except perhaps: "I have been blamed, *ich bin getadelt worden.*" And thus it is clear that Mr. W. himself would translate the sentence by: *er wird nimmer geglaubt* (instead of *ihm wird nimmer geglaubt*). Now he continues: "But the conscientious critic (to whom we commend the sentence he seems so anxious to dodge) actually attempts to *change* the verb into the *impersonal* form, which has *not yet* been treated, by *garbling the sentence* that he may thus criticize it." Now, even the most skilful critic could not more strikingly show the state of Mr. Worman's knowledge, than the latter himself has exposed it in this defence. For whoever understands his bungling language, will immediately see Mr. Worman's opinion, that the phrase which we took out of his sentence, must be translated in the *impersonal* form, while in its connection with the whole sen-

¹ This is the reviewer's version of the history of this remarkable rule. Whoever has a better one, is welcome to it.

tence the *personal* form was required. Thus Mr. Worman at once shows that he has not the slightest idea about the use of the German impersonal passive, and of the rule that the dative object of German verbs can *never* become a personal subject in the passive construction. He evidently would translate his sentence thus: *Wer einmal lügt, wird niemals geglaubt* (instead of *Dem wird niemals geglaubt*), and clearly shows hereby, that he did not know himself how to translate the sentences which he proposes to the student. Mr. W. could not have better shown the justice of our assertion, that he is unacquainted with the very rudiments of the language, and especially that he is unable to analyze the plainest sentences. His remark, that the use of the impersonal form has *not yet* been shown, is almost witty, since, from very palpable reasons, he has never shown it in his whole book, at least not in its application to the case-theory, where the student most expects and needs it.

10. We asserted, that the student must translate the sentence, "I cannot cross the river," by *Ich kann diesen Fluß nicht übersehn*. Mr. W. thinks this assertion to be unjust, but wisely abstains from showing how the student *ought* to translate it. He says: "The very lesson of which this is a theme treats of the distinction "to be made between separable and inseparable verbs, and on the preceding page "we find the following in the list of verbs possessing both forms: SEPARABLE: "übersehn, to cross; INSEPARABLE: übersetzen, to translate." But the author himself lays it down as a rule, that in the infinitive no distinction can be made between both classes in the detaching of the prefixes (p. 278, Obs. III). What distinction would then Mr. W. have the *student* make? He evidently did not see that he placed a trap for the "unfortunate" student, into which the latter necessarily must fall. The fact is, that the compound *übersetzen* could not be used at all in this connection, *neither* as a separable, *nor* as an inseparable verb; the latter on account of its meaning, the former, because it is a *neuter* verb, while the English "cross" is *transitive*. This is the very reason why we censured the English sentence proposed by Mr. W., and the justice of this censure Mr. W. could not have shown better than by rushing himself into the trap, which both his ignorance and carelessness prepared for the "unfortunate" student. Moreover, he furnished himself the best proof for our assertion, that the lesson on "separable and inseparable compounds" is a masterpiece of confusion. For if he himself became confused by it, what will be the fate of the "unfortunate student?"

11. We objected to the use of the plural *Landmänner*. He says: "Nor does he (Mr. W.) use *Landmänner* incorrectly. Both Sanders and Adelung give the word "as in use. *Landleute* indicates more particularly the lower orders or peasantry." Here Mr. W. again corrupts his witnesses. Neither Sanders nor Adelung give the form *Landmänner* as in use. On the contrary, they both give *Landleute* as the only plural of *Landmann*. But they refer to an *Austrian* provincialism, according to which the word *Landmann*, with the plural *Landmänner*, is used by the people to denote certain local officers, just so as the more familiar Swiss word, "*Landammann*" would not form *Landamleute* but *Landammänner* in the plural. Now, Mr. W. himself will not maintain that he used the word *Landmänner* in the meaning of these Austrian local officers. His stated difference between *Landleute* und *Landmänner* is altogether one of his own making, and bare even of the shadow of an authority.

12. Mr. W. tries to prove from Becker, that he is correct in his genitive *des Generals*, which we would not even have mentioned, had he not used the word as a paradigm and thus induced the student to inflect a whole class of words improp-

erly. Mr. W. reprints three passages from Becker in original and translation,¹ to support this genitive: one, where Becker speaks of the formation of genitives in *es* in general; another, where he speaks of the dropping of *t* in words with *unaccented* syllables (to which category the word *General* decidedly does not belong), and the third, where he says that foreign personal nouns with certain terminations are declined with genitives in *s* (which has no bearing at all on the question). But he wisely leaves out a passage in the same section, which alone belongs here, and according to which *nouns with accented ultimates, when they end in a liquid and have a long vowel* (as, for instance, the word *General*) *drop the letter t in the ending*. We leave it to the reader to find a fit name for such prevarication.

13. To support his *Newton*, he again cites Becker, but again misquotes him. He goes to the trouble to print¹ the section, referring to the formation of *German* proper nouns. But none of the *Newtons* belonged to Mr. W.'s countrymen. That passage of Becker's, where the formation of the plural of *foreign* words is shown (§ 146, 7th edition), is again wisely left out by Mr. W. According to this rule, the ending *s* is applied to foreign nouns, and this must always be done, when the termination of the singular (as in *Newton*) does not occur in German nouns. Thus we say „*die Stuarts*,“ not *die Stuarthe*. How completely Mr. W. has mixed up these rules, appears from the fact that he himself says „*die Rothschilds*,“ though the representatives of this name are double countrymen of his. *Here* he ought to have applied Becker's rule, which he took the trouble to reprint, but not to *follow*. According to Becker's misquoted rule Mr. W. unquestionably would say: *die Ciceroe*, *die Mariuse*, *die Demosthenese*, and other enormities.

14. Mr. W. declares the following errors as misprints; *Genuenser*, *des Baron von Bülow*, *alle Abend*, in *der gestern Nacht* (he says instead of *letzten*—but he evidently meant to say *gestern Nacht*, without the preposition), *am heller lichten Tage* (he says instead of *hellen*). But Mr. W. has made very many worse blunders than these. The last especially is a very notorious Berlin vulgarism, and almost as bad after as before² the correction. But—we give him with pleasure the benefit of his denials, if the public will.³

15. The following of his blunders he tries to extenuate by divers queer reasons: He says he has not *recommended* the phrases „*ich habe kalt*,“ „*ich habe warm*.“ But he says distinctly: They are *proper*, they are *correct*. Or does Mr. W. imply hereby, that he is responsible only for such of his rules, as he expressly *recommends*, and that without such „*recommendation*“ we must take them for what they are worth?—He says that he did *not* deny that the word *Brot* formed a plural. But he expressly mentions it among those words that are used *only* in the singular (p. 63). We should think that the most hairsplitting sophist could not discover a difference in the meaning of his expression and our version of it.—Mr. W. excuses his *wozu* as a dative in the paradigm of *was* by saying that its *peculiar* character is fully explained in the same lesson. But he explains the „*peculiar*“ character of this word in the same lesson simply by saying that *wozu* is an *adverb*, which makes the matter only worse for the „*unfortunate*“ student, who sees the same word in the same lesson once called a dative in the paradigm

¹ Evidently for no other purpose than to fill up vacant space.

² It is ungrammatical and vulgar before, and flatulent after the correction. Why not say at once, that the whole word *heller* was a misprint. This is not worse to believe than that the printer mistook *letzten* for *gestern*.

³ Mr. Apella certainly will—we know.

of *was*, and at another place an *adverb*.—He denies that he has *proposed* „er ist ein Freund von mir,” and avers that he prefers the form „einer meiner Freunde,” and never uses the former expression in an exercise. Nevertheless we find on page 316 distinctly that he himself uses this phrase in an exercise. His reference to Tiersk, who is no authority whatever, is utterly out of place. Whether Mr. W. has taken the sentence, in which he construes *pröbigen* with *zu*, from Douai or any other writer, is very indifferent. He does not seem to understand yet that, when we copy the mistakes¹ of others, we are even *less* excusable than for our own.

16. Another set of mistakes he tries to justify by an array of “authorities.” So his genitive „des Heren,” where he refers to Adler and Flügel, who evidently are no authorities whatever, while Adelung, Heinsius, Sanders, and Lucas give the genitive *Heren*. For the imperfect *müß* he quotes Peissner, Woodbury, and Adler, who again are of no authority. He also quotes Sanders (who is an authority), and says that Sanders *allows* this imperfect. This is simply untrue. The word was already obsolete at Luther’s time. It occurs only in middle German. He brings a formidable array of authorities in regard to *Stiefeln* and *brösch*. But we have *against* both words an authority which Mr. W. at once will acknowledge—his own. The word *brösch* is given by himself as the only form of the imperfect of *bröschten*, p. 240, and nevertheless he has *brösch* in the next exercise. The word *Stiefel* belongs, according to Mr. W.’s own statements, p. 40, to those words which do *not* change in the plural, and he nevertheless presents *Stiefeln*² in the exercise. Thus he shows, even if we acknowledge his authorities against his own rules, with what care he composed his exercises, where the student finds forms contradictory to his rules. Saugte he maintains by a verse of Goethe, but he ought then to have declared it a *poetical* imperfect, since it does not occur in prose.³

¹ It would have been very much better for Mr. W., if he had studied Douai’s book a little, instead of picking up his rare mistakes, which this able scholar can afford to acknowledge frankly.

² Which is a Berlinism, although it is sometimes found.

³ Mr. W.’s “ally,” Prof. Vordtriede, has undertaken to defend him in a few points. The latter says: “The conclusions which the critic draws from the mistakes in Worman’s grammar are far too general, as, for instance, ‘he does not know how to decline,’ &c.; assertions which in their generality are refuted by the book itself.” Prof. V. has evidently forgotten that Mr. W.’s work is a *copy* of Otto’s grammar, and that consequently his different paradigms cannot be alleged as proofs of his ability to decline or conjugate.—Mr. V. continues: “In *letzter Zeit* is just as legitimate as in *neuester Zeit*.” But the correctness of the one phrase does not prove that of the other, since the omission of the article in such phrases can only be justified by *usage*, and not by grammatical rules, which Mr. V. himself has not alleged; and to find *vouchers* for the phrase „in *letzter Zeit*” in Mr. Worman’s sense (*seit kurzem*), will be very difficult for Prof. Vordtriede.—The same gentleman is evidently mistaken, when he declares the use of the dative or accusative in the phrase: *Paßt bu dir in die Hand geschnitten?* a debatable question. *Schneiden* is a transitive verb and hence cannot govern the dative. Becker, in the passage which is probably before Mr. Vordtriede’s mind, did not think of construing transitive verbs with a possessive dative. The sentence: „Warum gewöhnen Sie sich nicht deutsch zu sprechen?” cannot be twisted under any rule of Becker’s. Prof. Vordtriede ought to have quoted it.—To say that „*ich verbarg mich hinter der Kirche*” may be right, if the hiding-place was *behind* the church, is very strange. Where else should the hiding-place be, when it is said that it *was* there?—That the imperative *schelte* and „er ist ein Freund von mir” are used in Germany, is right. But so are many other words which are not justifiable. Prof. Vordtriede knows very well that both expressions are ungrammatical.—For his learned discussion of the gender of *Thermometer* the public will be thankful. But he is mistaken with his quotations. For neither Heyse nor Heinsius say anything about the gender of

17. What Mr. W. pleads in regards to the sentences, which must be incorrectly rendered by the student, amounts to this, that the student *might* just as well have hit upon the correct translation. So he might—but merely by accident. It is true that sometimes the correct German expression for the English term stands in the vocabulary at the side of another, which, for the required connection, would be incorrect. But how shall the student, who has no idea of German synonyms, know whether he must use the one or the other of the given terms? How can he know that the word gentleman, page 450, must be translated by *Herr von Ehren*, and that the translation by *Herr* will make nonsense? But most generally Mr. W. did not even take *this* trouble, but gave only *one* signification, which for the quoted sentence will produce an unmitigated and ridiculous absurdity. Mr. W., therefore, takes great care not to enter into details, because every sentence would convict him of his utter recklessness in the management of the exercises. When he says that the correct signification of “*to set the table*” is, indeed, in his vocabulary, it is true that this is so in the second edition, but it was *not* in the first. In regard to the sentence, “*As I could not use it, I have sold it,*” we maintained that the student would translate: *Als* (which should have been *da*) *ich konnte es nicht brauchen, ich habe es verkauft*. Mr. W. says that his rules on p. 94 would have shown him the correct place of the auxiliary in the first, and Lesson XL. the correct place of the finite verb in the second clause. But Lesson XL. stands on page 329, while the quoted sentence is on page 184, and his rules on page 94 have been only introduced in the *second* edition of Mr. W.’s book. Had they, however, been there already in the first edition, they would still have been of no avail for the student. For Mr. W. says in these newly introduced rules nothing but that, when a sentence opens with *wenn* or *daß*, the verb is placed at the end of the sentence. Now the sentence in question begins with “*da*,” and hence Mr. W.’s rules did clearly not refer to it. But even if he had mentioned every one of German conjunctions, the student would still have been in a quandary, since by translating it as proposed, he clearly satisfies the requirements of Mr. W.’s rules. For Mr. W. says: “*the verb must be placed last in the clause.*” Now *brauchen* as well as *konnte* are verbs. The student would, therefore, satisfy this excellent rule in both ways, either by placing *konnte* or *brauchen* at the end of the clause.

18. As for his remarks on pronunciation, Mr. W. did not allege a single item in his reply, by which we could be induced to modify our charges in the slightest point. On the contrary, he has decidedly confirmed them. For that he still maintains a difference in pronunciation of long *o* and *oh*, and long *a* and *aa*, places his ignorance in regard to the German protracting signs in the strongest possible light, and justifies our assertion, that he by necessity must teach pronunciation incorrectly, since he perpetually confounds sound and written letter. His assertion that he is maintained by Becker in his startling statements regarding long *i*, belongs to the same illusion, and his invention of three classes of *S*-sounds (the long, the rather long, and the short) is too ridiculous as to deserve

Thermometer. They say that foreign nouns retain the gender of the language from which they are taken. This rule, which shows the incorrectness of *das* *Therm*, certainly would not prove the correctness of *das* *Thermometer*, since *thermometrum* (or *metron*) are neither Latin nor Greek words. See above. Our stricture on *weg*, which is wrong, came by a mere accident, from a cross made at the margin of our copy, into the list of imperfections.

comment. The pronunciation of *it* in *Wrie* and *Lilie* cannot be represented by *Aryuh* and *Leelyuh*, but by English *iz* in *Julia*, *Amelia*, &c. When he denies that he has restricted the sound of short *u* to a following *ll*, he is refuted by his own words. He says distinctly: *The pronunciation of u is oo in school. When followed by ll it has the sound of u in full.* When he meant that the same sound exists also before other consonants, why does he then speak *only* of *ll*? It is true that he has said at another place that the duration of the sound of any vowel *may* be shortened by doubling the consonant. But that will not explain the sound of short *u* before *single* consonants, or two *different* consonants (*muff*, *Lunge*, *Stuhl*, &c.). In regard to his pronunciation of *u* = *ü*, Becker's later editions (Mr. W. cites an old one) have given up this untenable position. Jacob Grimm says (*Germ. Gram.*, vol. I., 2d ed., p. 222): "To hear the words *System* and *Systemar* pronounced like *Süstern* and *Süntar* raises our laughter." Mr. W. makes *now* a distinction between *spät* and *Stalt*, but *not* in his grammar. He says distinctly that *ö* has the sound of French *eu* in *feu*, from which we must clearly infer that *höhl* and *hölle* are pronounced alike. He denies that he made *ai* and *ci* differ in sound, but distinctly says that *ai* is pronounced like *ai* in *aisle*, and *ci* like *i* in *mine*, from which every one will infer that he pronounces not only *aisle* differently from *mine* (compare his *note* and *bemoan*), but also *ai* from *ci*. A middle sound between *g* in *go* and the letter *k* no human organ has yet been able to form, nor the pronunciation of both successive letters in *bt*. Mr. W. can never prove the correctness of his spelling *Steln* with a *Œ* by an obscure „*Orthölexicon*." Whether the word is derived from Latin *colona*, as he maintains, or from *colonia*, as we remember to have read somewhere, is very indifferent, since hard *Œ* in words derived from the Latin is now generally spelled with a *l*. But that the spelling *Œln* is utterly obsolete, any geographical or historical work might have revealed to Mr. W.¹ That he has no idea whatever regarding the application of the letter *Œ* in foreign-born words appears from his spelling Humboldt's celebrated *Reismeß* thus: *Œeismeß* (p. 71). Probably he derives this word also from the Latin. Of his other horrors in pronunciation Mr. W. wisely says nothing. Nevertheless, in the face of such enormities, he does not blush to point out his treatment of this subject as one of the excellent features of his book.

19. Mr. W. finds it strange that we "seriously believe Dr. Otto to be a myth." But how can any one believe that a man who would affix his name to a "grammar" so utterly beneath criticism, could be a Professor in Heidelberg? Just so, any German at the other side of the Atlantic, who knows Mr. W.'s book, and hears that he is a Professor in — College, would unquestionably believe Mr. Worman himself to be a myth.²

20. Mr. Worman's defence of his plagiarism is very characteristic.

"The fact is," he says, "that while Otto has done a good work, there was still much to be done in the direction of accurate, thorough, and complete development of a system to which he has so happily introduced us. Yet there are many things in Otto which are intrinsically valuable, and to omit or garble them would be simply a wrong to the student."³ These Mr. Worman

¹ We recommend to Mr. W. to read the „*Stölnische Zeitung*," or to inspect the title-page of any book published in the city of Cologne.

² We must acknowledge that we still believe Dr. Otto to be a myth, since the "immense circulation of his books in Germany and England" has a very fabulous sound, and his name certainly is utterly unknown in these benighted regions.

³ We imagine that "Dr. Otto" if he should exist, will make a sour face at this encomium.

"(he *will* speak of himself in the third person) has availed himself of with full "acknowledgments, and so far from concealing his indebtedness to Otto, has "distinctly expressed it in his preface as 'especial obligation.'"

This language shows plainly the kind of man we have to deal with. We shall not weaken it by our comments. It is the most cutting self-condemnation which could have been written. He stands convicted not only of a bold plagiarism, but also of an attempt to conceal it from the eyes of the public, and to this he is adding now an utter indifference to public opinion, which he insults by imagining that reasons are good enough for it, at which he secretly laughs himself.

To write a German grammar is difficult even for the most learned and gifted of German scholars. The German is the most difficult, as it is the most beautiful of all languages. In writing it without blemish, how few, even after a lifetime of study, ever have succeeded! Not even was Jacob Grimm a perfect master in that language, which he identified with his name. German literature is an Ocean of wealth, as profound, as holy, as pure as the Ocean. It is the proudest temple of national genius that the world ever beheld. Even the initiated approach it with reverence, and bow down before it as the most perfect form in which human thought ever found expression. *He* has stretched out his sacrilegious hand, to rob this temple of its treasures; he has entered it, and the sanctuary is defaced and soiled, full of the impurities which he has left behind, an abomination to all that enter it after him without lustration. That unholy blasphemy, which he calls a German grammar, is spread broadcast over the land by the unholy greediness of his publishers, to fill the students with disgust, and to make them hate a tongue, which is falsified, corrupted, and murdered in every line. *He*, who does not dare to write a German letter to his acquaintances, for fear of exposing himself,—without preparation, without any other material than forty grammars, to collect their shreds into an abominable patchwork, *he* manufactures in a few months a book, which even the most gifted would not think of writing in as many years, and he and his publishers do not blush to have such a caricature praised as the most perfect of grammatical works by hundreds of either incompetent or misguided men; he, in sneering indifference and with the callousness of steel, announces a series of works on tongues which he can hardly recognize as such, much less read or understand, and to finish which many long lives of many scholars would be required.

These outrages, which are so unprecedented that the English language has not invented an adequate term by which to call them, have induced me to cleanse the sanctuary desecrated by this man, and to deliver him to public disgrace, which is but a small punishment in comparison with his deserts. I knew that I should have to brave the wrath of those whom I might expect his publishers would let loose upon me. Hundreds could have done this work better, and more ably than I; but, as it was an ungrateful task, no others came forward, so that my beloved mother-tongue must be contented with such defective work as I have offered.

¹ Mr. W. says in his preface: "We are under especial obligation to the German grammars of Grimm, Becker, Heyse, Otto, Noehden, Roese, Douai, and to Boileau's Nature and Genius of the German Language." This he calls an "acknowledgment" of his transcribing almost every lesson from Otto.

CORRESPONDENCE.

A CORRECTION.

OFFICE OF AMERICAN EDUCATIONAL MONTHLY.

MESSRS. A. S. BARNES & CO., in their advertising circular, "The Educational Bulletin, extra—for Teachers of the German," have given us a gratuitous advertisement:—"Professional Reviewer is actually engaged upon a German Grammar for the press of Schermerhorn & Co." There is, however, a slight error in this announcement. Prof. Fischer is engaged upon a LATIN, not a "German" Grammar. We make prompt correction of this little mistake to prevent disappointment to Teachers who sincerely seek, what recent developments prove to be sadly needed, a good and reliable Grammar of the German language. For the preparation of such a book, Prof. Fischer is eminently qualified; and, when his numerous engagements will permit, we hope he may enlist in the work. Meanwhile, we beg the enterprising publishers of Worman's books to go on without fear.

We regret that the righteous course of the Editors and Reviewers of the AMERICAN EDUCATIONAL MONTHLY, in exposing the absurdities of a book likely to do great mischief, has caused Mr. Barnes to seek refuge behind undignified personalities, and innuendoes about what he does not believe and dare not assert. Hitherto we have discussed the *book*. But since the appearance of Mr. B.'s circular, our readers may require all the facts in the case. These we may conclude to publish, if Mr. Barnes does not make proper apologies.

J. W. SCHERMERHORN & Co.,
Publishers of Am. Ed. Monthly.

MISS A. E. JOHNSON AND OBJECT-TEACHING.

MR. EDITOR:—"The Massachusetts Teacher" begins its June issue with the publication of a paper, read before the Middlesex County Association by Miss A. E. Johnson, Principal of the Framingham Normal School, on "The Common Schools of Massachusetts."

If this article were the production of a novice in the science and art of education, it might be allowed to pass unnoticed, for it could not then be expected to do any harm. But, as its author stands at the head of an institution where her opinions and ideas naturally must be looked upon by her pupils as the results of mature experience and careful investigation, and, as such, representing the truth as faithfully as the human mind can reveal it, the undersigned takes the liberty to offer the following remarks upon that part of the paper alluded to, which treats on "*Object Lessons*."

The Principal of the Framingham Normal School speaks thus of this subject:

"Teaching by object lessons, technically so called, which is really practicable only in large cities, where the schools are unfortunately most perfectly graded, and then only as a supplement to other methods, is maintained to be the best plan for all lower schools. We have trans-

ferred this method from Europe, and it fits our schools little better than the ample coat of the broad-shouldered German would sit upon the slender American. We have not time enough to give our children their school training in that way. And then it is questionable whether it is worth while to go through so much to get so little. Nor do real live, wide-awake children enjoy it.

"A little child had sent to her recently an object-lesson book, from which she had some lessons. She was quite uneasy at being compelled to think in such an order. Soon after, she had an arithmetic, which she suspected was on the same plan. 'Now,' said she, 'give me some lessons in the back part of the book.' She gave expression to the uneasy and impatient feeling which I have seen in the face of many a child when driven to follow a process fitting the sluggish motion of German thought, but painful to the active mind of an American child. And the consequence of using it is, that the children have a great deal of instruction in words, and the making of sentences which they do not form for themselves, and so they become little machine-like talkers, instead of receiving such a training as develops in each child such faculties and modes of thinking as are suited to him."

The only true assertion in the above is what Miss Johnson states in regard to object-teaching as a method introduced from Germany to America; and in spite of all antipathy of the lady-principal to it, Germany need not blush at having produced it.

The writer of these lines (who hails from Fatherland, was educated, and has ever since taught, according to this method), fifteen years ago prepared a work on Object-Teaching—a method then but little known in America. His MS. was presented to several New York publishers, but every one scorned the idea of bringing out such a work. It was excusable in publishers in 1854 to refuse to publish a book containing principles which, owing to their limited knowledge of educational methods, they could not appreciate. But it is unpardonable in the Principal of a Massachusetts Normal School in 1869 to be ignorant of the main features of an educational method in whose favor all enlightened teachers have long ago declared, and which she might have studied if prejudice had not prevented her from so doing. We are never too old to learn; and the fact that something is introduced by somebody from a foreign country which, perchance, we dislike, should not tempt us to condemn it wholesale, without trying to find out its possibly good features. "Any method, however faulty," (!) says Miss Johnson, in the course of her paper, "may produce good results in the hands of an earnest, enthusiastic, living teacher," etc. Why did she not try object-teaching, *however faulty* this method appeared to her?

As it is unwise to condemn a new method of teaching with which we happen to be unacquainted, and in which, for some reason, we do not wish to become initiated, it is wicked to publish a decided opinion about it for the purpose of covering our ignorance of it, especially if, in the mean time, we give currency to statements at variance with truth. In the case before us, the most natural result of Miss Johnson's expressed opinion is, that some of her pupils will believe it to be correct. They will then be opposed to object-teaching, as Miss Johnson is; they will not study it, and therefore will not be able to introduce it where they may be called to instruct. This will retard their mental development as well

as that of their future pupils, for all of which the Principal of the Framingham Normal School will have to answer at some future time.

The comparison drawn between the object-teaching method and the coat of the broad-shouldered German is, to say the least, not a very happy one. If any American, German, or Hottentot would don a coat not fitted for him, I should pity him as a simpleton if he did not know how to adapt it, or how to have it adapted, to his own wants. And if the Principal of the Framingham Normal School cannot adapt the method of object-teaching, or does not know *that it may be* adapted, to the wants and capacities of every pupil, she offers thereby proof positive that she is not only unfit for the position she occupies, but altogether disqualified for teaching.

That we should not have sufficient time to educate our children according to this method, is an entirely senseless assertion ; since this method, "*however faulty*" it may be according to the understanding of the learned Principal, can accomplish, at least, as much as any other in a given time ; and that real live, wide-awake children do not enjoy it, is as far from the truth as it is incredible that a little child should be quite uneasy at being compelled to think in "*such an order*" as a certain object-lesson book required her to do. It is not at all child-like—it is quite beyond the reach of a little child's mind—to think about a method or manner of thinking, and it is quite likely that Miss Johnson has mistaken her own thoughts for those of the child.

If by what Miss Johnson pleases to call "sluggish motion of German thought,"—according to her statement, "so painful to the active mind of an American child,"—*logical reasoning* is to be understood, I protest against the epithet employed, and am inclined to think that the lady is perfectly unable to judge about German thought at all, either in connection with object-teaching or without it.

It has given me great pleasure and genuine satisfaction to have found wherever and whenever I have instructed American children, of all ages, as well as adults of both sexes and different occupations, from the simple-minded seamstress or factory-girl up to the highly-cultivated minister or lawyer, that my German mode of thinking was not only not painful to them, but has always been entered into with unmistakable gratification, and, as I believe, not to their disadvantage. Could it be possible that, during an experience of eighteen years in lecturing to American audiences, and teaching private classes in Kinder Garten, Primary, Grammar, and High Schools and Colleges, I never should have met, even once, with a specimen of those active American minds alluded to by Miss Johnson?

To say that the consequence of object-teaching is that the children become machine-like talkers and no thinkers, is simply preposterous, and hardly needs mentioning, as it is too well known that just the opposite is the case.

After having tried to show that object-teaching is not for Americans, the Principal of the Framingham Normal School unknowingly recommends the same method as excellent for the study of Botany and other branches of natural sciences ; and in another place mentions her having asked a lady who had studied the subject of Gravity, why she did not regulate her pendulum, when her clock was losing time. Miss Johnson mentions, it is true, at the beginning of her paper, that she would venture

to speak “briefly and *hurriedly* ;” but she will allow the suggestion, that a Principal of a Normal school never should speak, or write, or do anything “*hurriedly*,” as in doing so, she hardly will be able to avoid errors not becoming a person in her position.

If it should be asked why the undersigned should attempt to appear as a public defender of the object-teaching method, he would simply answer that two reasons have prompted him to do so. In the first place, he is accustomed privately and publicly to vindicate the truth whenever he finds opportunity to do so ; and secondly, he is just at present engaged, in connection with others, in introducing in New England the system of Kinder Garten teaching, which is nothing but object-teaching ingeniously employed in its various adaptations. An experimental class is now in operation in Springfield, and in September next a permanent Kinder Garten, a primary department and training-school for ladies desirous of studying Fröbel’s educational method, will be opened in the same place.

Visitors are welcome at the experimental K. G. class, cor. Main and State streets (Institute for Savings), Springfield, and if Miss Johnson will honor the undersigned with her presence only for one brief hour, she may rest assured that she will return to Framingham with a more correct opinion about object-teaching.

The undersigned is hopeful that not many years hence, not only every city in America will have one or more K. G., but that with each Normal School a K. G. Department will also be connected, and that thereby the true method of object-teaching will receive that attention it so eminently deserves.

EDW. WIEBE.

SPRINGFIELD, Mass., July, 1869.

A GRAMMATICAL QUESTION.

MR. EDITOR :—A friend of mine objects to the following sentence,—“I had rather my father *had presented me with* a knife.”

He says he did not present me ; he presented the knife. Is not the foregoing use of the verb *to present* authorized and correct ? I find in the poem of Robert de Brunne, published about A. D. 1338, the word thus used in the following lines :

“Thei toke ther Sir Griffin, and of his hede thei smote,
& sent it Kyng Edward, and *presented him with that*.”

As thus used, Worcester, in his Quarto Dictionary, defines the word, and illustrates his definition thus :

“PRESENT, *v. a.*

“5. ; to favor with a gift ; usually followed by *with*.

“‘Should I present thee with rare, figured plate ?’—*Dryden*.”

Webster, too, in his Quarto Dictionary of 1828, does the same.

“PRESENT, *v. l.*

“6. To favor with a gift ; as, We present a man with a suit of clothes.”

Lexicographers do not make uses and meanings for words : they merely show what those uses and meanings are. Why should not grammarians and teachers of language act on a similar plan, and not legislate against long-established forms still in good repute and general use ?

Yours, for the right, S.

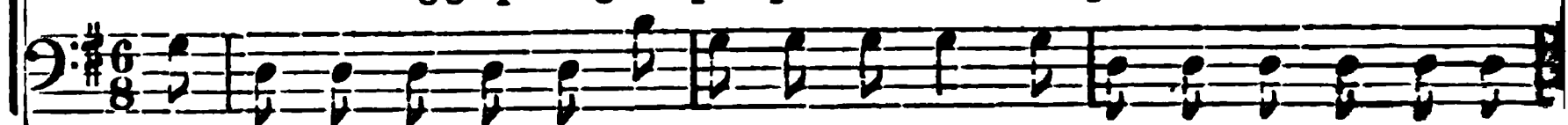
Specimen Page from "Diadem of School Songs"

62

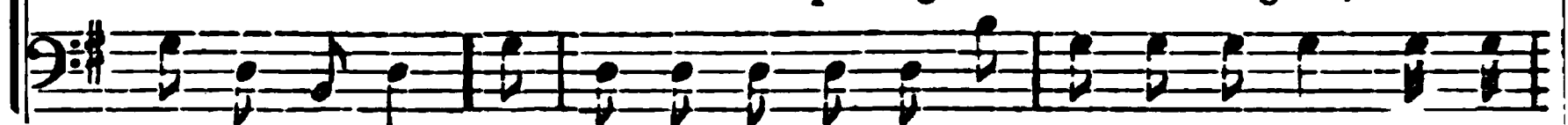
VACATION SONG.



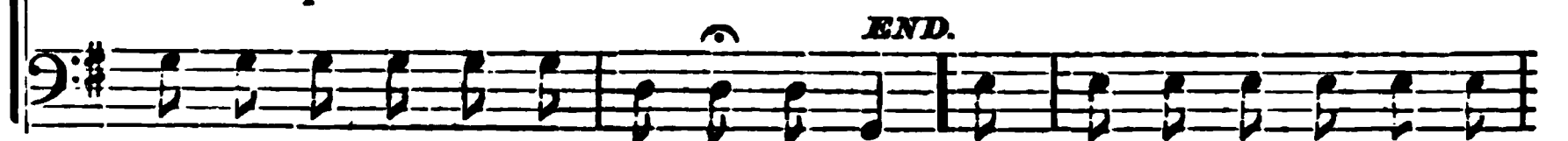
1. A - way o - ver mountain, a - way o - ver plain, Va - ca - tion has come with its
2. Where the clust - er - ing grape hangs in pur - ple we know, The pastures and woods where the



pleasures a - gain; Where young steps are bounding, and young hearts are gay, To the
D. S. The dog waits our whistle, the fleet steed our call, The
red berries grow; The broad trees we'll climb where the sun-ny fruits rest, And
D. S. O meet un - re - pin - ing each task that is given, Till our



fun and the fro - lic, a - way, boys, a - way. The fresh breezes rev - el the
boat safe - ly rocks where we moored her last fall.
bring down their stores for the lips we love best. Dear comrades, farewell, ye who
time of pro - la - tion is end - ed in heaven.



branch - es be - tween, The bird springs a - loft from her cov - ert of green;
join us no more, Think life is a school, and till term-time is o'er,



THE DIADEM OF SCHOOL SONGS: Containing Songs and Music for all grades of Schools, a New System of Instruction in the Elements of Music, and Manual of Directions for the Use of Teachers. By WM. TILLINGHAST. New York: J. W. Schermerhorn & Co., 14 Bond Street.

This new music book is attractive in appearance and excellent in contents. The "Manual" consists of oral and tune-form exercises, arranged in short lessons, and so simple that a teacher with a limited acquaintance with music, can teach them successfully. But little attention is given to the theory of music, the aim being to lead the learner by progressive drills to the art of sight-singing. The exercises are accompanied with specific directions to teachers. The songs which make up the body of the work, are well adapted to school use, the words embodying the experience and sentiments of childhood, and the music embracing many of the choicest school melodies. The poetry and tunes are alike printed in open and clear type. A considerable number of illustrations give an air of life to the pages and add much to their attractiveness. This is a good book.

Wholesale price, 50 Cts. Per dozen, \$6.00.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

SEPTEMBER, 1869.

TECHNICAL EDUCATION IN EUROPE.

IV.—HOLLAND.

THE law on secondary education, enacted 1863, provides for the establishment of schools, as follows :

(a) Burgher Day and Evening Schools for the working-classes. These are generally evening schools, parents being inclined to apprentice their children to some trade by which they may earn a trifle, as soon as they leave the primary schools. Previous to 1863, there were schools for drawing, designing, and modelling,—much liked and frequented by the lower classes,—which were subsequently combined with the evening schools.

(b) Higher Burgher Schools, for the education of masters, overseers, the commercial classes, and such as are not intended for the army, the navy, or the learned professions ; in short, for the great mass of the population of all ranks.

(c) Agricultural Schools ; one government school of this sort being provided for in case its establishment should appear desirable ; and subsidies allowed to private agricultural schools. There is but one school of this sort, at Groningen ; and that is not favorably reported on.

(d) The Royal Polytechnic School at Delft, intended for the scientific instruction of those who, in the terms of the law, require “a higher degree of technical and theoretical knowledge than is obtainable at the higher burgher schools, and for the education of civil engineers (from whom the Government civil engineers are selected after competitive examination), architects, naval engineers, ship-builders, mechanics, and engineers for the mines.” This is the only strictly technical school in Holland.

In regard to the manner of their support, these secondary schools may be classed as follows : (1) Those supported entirely by the towns ; (2) Those supported by the towns with a subsidy from the Government ; (3) Government schools, toward which the towns contribute only the buildings or some part of their cost ; (4) Private schools, existing on their own resources. The latter may be subsidized by the Government on condition that no religious instruction is given in them. The subsidies granted by Government to the public schools amount to about \$2,000 a year to the higher burgher schools with three classes, and about \$3,000 to those which have five classes, with the exception of one which receives somewhat more than \$4,000. Burgher day and evening schools are not subsidized.

The maximum amount of fees for the last-named schools is \$5 a year. For the Government higher burgher schools it is \$25. At the Royal Polytechnic School the fees amount to about \$80. The fees of the other public schools are not subject to any limit by law, but they must be submitted to the Government for approval. They never exceed \$50. Generally they range from \$12.50 to \$25. Books are at the expense of the student. There are no free places, and none of the expenses of the students are defrayed, as in some other States, by private manufacturers. The time spent at the day and evening schools is two years ; at the higher burgher schools, three or five years, according to the number of classes ; at the polytechnic school, four years. Students enter the polytechnic school on leaving the higher burgher schools ; or after passing the final examination with the pupils of these schools, at 18 or 19 years of age. For the other schools no specified qualification is required for admission. Pupils enter at the age of twelve or thirteen.

The subjects of instruction in the public schools, as regulated by law, are as follows :

(a) In the Burgher Day or Evening Schools, the rudiments of the following branches : mathematics ; theoretical and practical mechanics, with some knowledge of machinery ; natural philosophy and chemistry ; natural history ; technology ; agricultural science ; geography ; history ; the Dutch language ; the first principles of political economy ; ordinary and rectilinear drawing ; gymnastics.

It rests with the local authority to determine whether the rudiments of technology or of agriculture, or of both, shall be taught. Instruction in modelling or in some foreign language, French, English, or German, may be added. The same authority determines which of these subjects shall be taught in the evening schools.

(b) In the Higher Burgher Schools (3 classes) : mathematics ; the rudiments of natural philosophy and chemistry ; the rudiments of botany and zoology ; the rudiments of political economy and book-keeping ;

geography ; history ; the Dutch language ; French ; English ; German ; caligraphy ; ordinary and rectilinear drawing ; gymnastics.

(c) In the Higher Burgher Schools (5 classes) : mathematics ; the rudiments of theoretical and practical mechanics, of the knowledge of machinery and technology ; natural philosophy and its principal applications ; chemistry and its principal applications ; the principles of mineralogy, geology, botany, and zoology ; principles of cosmography ; the principles of the municipal, provincial, and central government of the Netherlands ; political economy and statistics, especially of the Netherlands and its colonies ; geography ; history ; Dutch language and literature ; French language and literature ; English language and literature ; German language and literature ; the rudiments of commerce, knowledge of raw and wrought materials and book-keeping ; caligraphy ; ordinary and rectilinear drawing ; gymnastics.

The accompanying programme (page 364) will suffice to show the relative attention given in these schools to the several branches of study pursued.

(d) In the Agricultural Schools : political economy ; practical mathematics (surveying, levelling, mensuration, etc.) ; mechanical science, as applied to agriculture and the use of agricultural machines ; the construction and arrangement of farm-buildings ; rectilinear drawing, as applicable to agricultural science and machinery ; natural philosophy, chemistry, and meteorology, in their application to agriculture ; agricultural technology ; mineralogy and geology, in their application to agriculture ; general and special botany and zoology ; the anatomy and physiology of plants and animals ; the distinguishing characteristics of the different domestic animals, their diseases and medicinal treatment ; general and special agriculture, vegetable and fruit gardening, and the cultivation of timber and fruit trees ; the rearing of stock ; farm book-keeping ; farming in the colonies, etc., etc.

(e) In the Royal Polytechnic School : the higher parts of algebra ; spherical trigonometry and analytical geometry ; descriptive geometry and its applications ; differential and integral calculus ; surveying, levelling, and surface measurements ; theoretical mechanics ; applied mechanics ; machinery ; mechanical technology and agricultural machines ; applications of natural science ; applied, practical, and analytical chemistry ; chemical technology ; modern manufactures ; mineralogy and geology ; applied geology and working of mines ; metallurgy ; hydraulics ; road, railroad, and bridge building ; civil architecture ; ship-building ; rectilinear drawing, in application to the different branches of science ; practical instruction in the use of tools, instruments, and the turning-lathe ; construction of models ; political economy ; commercial law ; laws relating to engineering, public works, mining, and all industrial works.

WEEKLY COURSE OF STUDY AT A HIGHER BURGER SCHOOL (Five Classes).

Days.	Hours.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.
Monday.	9-10 10-11 11-12 1-2 2-3 3-4 9-10 10-11 11-12 1-2 2-3 3-4	Dutch. Mathematics. Geography. German. Natural history. French. Mathematics. German. Dutch. History. Reciprocal drawing.	English. German. Mathematics. Dutch. Geography. Mathematics. Dutch. Mathematics. English. German. Natural history.	Mathematics. Chemistry. German. Dutch. History. Reciprocal drawing. Geography. Mathematics. Physics. History. English. German. French.	French. Mathematics. Reciprocal drawing. Chemistry. Mechanics. Political economy. Cosmography. Chemistry. History. German. Physics. English.	Mathematics. Dutch. Geology. Political economy. English. Physics. Mechanics. History. Reciprocal drawing. Technology. Chemistry. Political economy.
Tuesday.	9-10 10-11 11-12 1-2 2-3 3-4	History. Mathematics. Natural history. Calligraphy.	Geography. French. Mathematics. History.	Mathematics. German. History. French.	Mineralogy. Mathematics. History. Geography.	Mathematics. History. German. Drawing.
Wednesday.	9-10 10-11 11-12 1-2					
Thursday.	9-10 10-11 11-12 1-2 2-3 3-4 9-10 10-11 11-12 1-2 2-3 3-4	Dutch. Mathematics. French. History. German. Geography. Mathematics. Reciprocal drawing. History. Geography. Drawing.	Reciprocal drawing. French. English. German. Dutch. Mathematics. English. Dutch. Mathematics. French. History. Natural history.	Chemistry. Reciprocal drawing. Mathematics. Drawing. Dutch. Physics. German. English. French. History.	Mathematics. Geography. Physics. English. Mechanics. Political economy. Physics. Dutch. History. German. Chemistry. French.	Physics. History. Cosmography. Technology. Commercial science. French. Reciprocal drawing. German. Physics. Commercial science. Geography. English.
Friday.	9-10 10-11 11-12 1-2 2-3 3-4					
Saturday.	9-10 10-11 11-12 1-2	Dutch. Mathematics. French. German.	History. French. Reciprocal drawing.	Mathematics. Geography. History. English.	Mathematics. Reciprocal drawing. Drawing.	Mechanics. Chemistry. Mathematics. French.

Gymnastics and the rudiments of the manual drill are taught Wednesday and Saturday afternoon.

The law provides that in all schools, whether founded by public bodies or by private persons, the course of instruction may be modified according to circumstances, and either curtailed or extended. The establishment of middle schools for girls by public bodies or by private persons, with or without subsidies, is permitted. But one girls' school is reported, and that is at Haarlem.

Instruction in the burgher schools is given by special masters in the different branches. The lessons are theoretical, except, of course, in drawing, modelling, and moulding, and in experimental chemistry. They are not accompanied by participation in actual manufactory processes or works. On the quarterly payment of certain very moderate fees, "auditors," not considered as regular students, are admitted to any course of lectures they may choose to follow. Teachers at the higher burgher schools are recommended to accompany the students of the higher classes on visits to neighboring manufactories, iron-works, sugar mills, etc.

The diploma granted to students who have passed the final examination at the higher burgher schools (five classes) exempts from first examination at the polytechnic schools; from first examination from East Indian Civil Service, and from some part of the examination as sworn and examined land-surveyor. No other privileges are acquired by frequenting these schools. No special education is required by law for the exercise of any trade or profession except the learned ones.

At the polytechnic school, diplomas are granted in technology, and further as civil engineer, architect, naval engineer, mechanic, engineer, for the mines.

The head-masters of schools are styled Directors. The number of masters at the town schools, and their salaries, are fixed by the Municipal Council, subject to the approval of the Provincial Government. If the schools are subsidied by the province or the government, the approval of the Minister of the Interior is required. The Municipal Council appoints the director and the masters from a list of candidates (in most cases three names for each place) sent in by the Burgomasters and "Wethouders," on recommendation of the Inspector. The directors and masters of Government schools are appointed by the Crown. The qualifications required of candidates are a testimonial as to character and conduct from the municipal authorities, a diploma obtainable on passing examination, and separate diplomas qualifying for instruction in the special branches to be taught. The character of the examination for each of the different certificates or diplomas is minutely prescribed by law; and a Government commission is appointed every year for the examination of candidates. This commission is divided into two boards of examiners, one for the exact sciences, and one for literary branches. No diploma

is granted without a pedagogical examination, except "for private instruction." The examinations are presided over by two inspectors. The members of the commission are selected from among the University Professors, and other learned bodies. The examinations are public. Those who have taken a degree at one of the Dutch universities are qualified for instruction without examination in the branches for which they have taken honors in the university. As but few of the candidates have enjoyed university advantages, the results of the examinations have hitherto been far from satisfactory. Scarcely one-third of the candidates have passed. It is expected, however, that the law on higher education will remedy this evil.

The foundation of all of these semi-technical burgher schools is of too recent date to admit of any conclusion in regard to their effect on the manufacturing and other material interests of the country. Besides, it must be remembered, they are intended for the diffusion of general knowledge without reference to any particular trades or profession, and their influence must be correspondingly slow and general.



OUT OF SCHOOL IN THE MIDDLE AGES.

III.

OF course the toils of learned travel fell with comparative lightness on men of means ; but still they had their difficulties. If they took earnestly to study, their chances were that they devoted themselves to that department of all others most obnoxious to their friends—occupying themselves with the *belles-lettres* instead of law, or plunging over head and ears into theology instead of devoting themselves to Avicenna and Galen. Such was the case with Petrarch among others. His father burnt his poetic manuscripts and shifted him from one university to another in the hope of changing his inclination. And the dutiful son made every effort to second these measures, actually learning the whole body of the civil law by rote, in the hope of reconciling himself to its intricacies. But all in vain, for he could not but be a poet. And very similar were the troubles of Boccaccio, whose sire tried first to mould him into a merchant, and then into a lawyer, with just as little effect. Thomas Aquinas, too, suffered much on account of his unconquerable predilection for dry logic and theology. These subjects he adopted greatly to the annoyance of his noble relatives, who did everything they could to restore him to a proper frame of mind. Finding milder measures

unavailing, they confined him for two years in the family stronghold, treating him during that time to many rebukes, a good deal of bread and water, and occasional flagellations, and finally employing a very pretty lady to make love to him. But Thomas—as firm against this queer device as against persecution—got rid of the temptress by the aid of the saints and a firebrand turned into a cudgel, and thenceforth, hopeless of his conversion into a man of the world, his mother connived at his escape by the window, and allowed him to follow his bent. But youths of rank had other and more serious impediments to dread when they engaged in the pursuit of knowledge. Wars frequently obstructed the roads, and bands of robbers always infested them, so that the unfortunate student who had anything to lose often found himself waylaid and tied to a tree, like the celebrated Anselm in the neighborhood of Bec. But he had not always the luck of that worthy in escaping before the wolves or the weather interfered to put an end to his rambles.

The vast proportion of these literary wanderers, however, were the children of the people—cadets of the loom and the plough—lads who begged their way through the Trivium and Quadrivium, climbing often to the highest dignities, and becoming, according to the turn of their genius, renowned lawyers, skilful diplomatists, leading ministers, and even popes. But in the mean time their novitiate wound through hardships and privations in plenty of the kind which Cervantes, who seems to write from experience, enumerates by the mouth of Don Quixote:—"Among the hardships of the scholar we may, in the first place, name poverty. He endures misery in all shapes, in hunger and in cold, sometimes in nakedness, and sometimes in a combination of all. Still, however, he gets something to eat, either from the rich man's leavings, or from the sops of the convent—that last miserable resource of the poor scholar. Nor is he without some neighbor's fireside or chimney-corner to keep him at least from extreme cold. And at night he *generally* sleeps under cover. I will not enlarge upon other inconveniences to which he is exposed, such as scarcity of linen, want of shoes, threadbare coats, and the surfeits he is liable to when good fortune sets a plentiful table in his way." And that Cervantes does not exaggerate, the following sample of poor-scholar life as it was toward the close of the middle ages will sufficiently attest.

Thomas Platter was a native of St. Gall, and a contemporary of Luther, Zwingle, and the Reformers generally. Up to his ninth year he was employed as a goatherd among his native rocks. But his mother, a poor hard-working widow, like so many other mothers of the same period, was possessed with an ardent desire that one of her sons should become a priest; for in those days it was universally held that the angel's salutation, "Blessed art thou among women," applied quite as much to every mother who had a son in orders as to the Virgin herself. Fixing on

Thomas, as most likely to bring her under the influence of the blessing, Dame Platter sent him for instruction to a neighboring curate. Here, however, the boy learnt nothing but a little music, which his master taught him chiefly with an eye to his own benefit,—for the moment young Platter could get through an anthem correctly, his tutor packed him out to sing for eggs before the doors. In no other respect did this model teacher trouble himself concerning his disciple, except to pull him about by the ears or the hair, whichever came first to hand, when he happened to be out of temper. Justly conceiving that this kind of training was not exactly adapted to advance her son toward the priesthood, Dame Platter determined that Thomas should become a poor scholar; and a cousin of his, one Paul Summermatter, a sturdy varlet of nineteen or twenty, who had been for years engaged in the honorable profession, happening just then to pay a flying visit to St. Gall, he was easily induced to take charge of little Thomas, and initiate him into all the mysteries of the craft, receiving a gold florin as fee.

In those days, says Platter, it was customary for youths who desired to learn, and especially to prepare themselves for the priesthood, to wander about, sometimes alone, but more frequently in groups. Being mostly very poor, they made shift to support themselves on the road and at school by begging. The bigger ones were called Bacchants, and the smaller, Sharpshooters. It was the duty of the bacchant to instruct the sharpshooter in the elementary branches; and the latter, in return, was bound to wait upon his senior, accompany him in his wanderings, beg for him, and when mendicity happened to be at a discount, sharpshoot, that is, in plain English, steal without scruple. The bacchant's share of the contract was only too frequently neglected; but woe was certain to befall the sharpshooter who failed in his. Consequently, while the drudges went about half famished, begging and stealing, and thus graduating in all the smaller vices, the bacchants prepared for taking honors in the great ones by leading a jolly life, drinking, gaming, rioting, and robbing too, whithersoever they went. An admirable method, truly, of training the spiritual pastors and masters of Christendom, and sufficiently explanatory of many curious mediæval phenomena.

Platter and his cousin joined a group of poor scholars at Constance, and set out for Breslau. There were nine of them in all, six bacchants and three sharpshooters. Their route lay through Augsburg, Ratisbon, Prague, and thence as nearly as possible along the track adopted by the Crown Prince of Prussia in the recent campaign. The little ones begged through the towns and villages as they passed along, and the big ones usually made themselves comfortable with the result in the alehouses. Platter being small, very simple, and a genuine Switzer—at once a rarity in Eastern Germany, and a curiosity, on account of the martial fame of

his countrymen—made a universally successful fag, gleaning plentifully where most others failed. But this was not much to his own advantage; for his cousin always took possession of his gettings, thrashed him soundly when he ventured to help himself, and kept him incessantly on the “quest.” Besides, whenever he happened to grow weary during his earlier marches, Paul walked behind, and made him skip along by applying a stout switch smartly to his bare legs.

Approaching Silesia, the fags were given to understand by the bacchants that poor scholars were licensed to steal geese, ducks, and provisions generally all through that province. And Platter, at least, devoutly believed, rejoicing greatly thereat, and longing for the hour when he should tread this highly favored soil, and exercise thereon all the rights and privileges in matters thievish that pertained to his order. Accordingly, a fat goose happening to cross his path at the first Silesian village they reached, Master Thomas knocked it down with a pebble, and clapped it coolly under his coat, paying small regard to the owner, who happened to be looking on. Greatly to his astonishment, however, an alarm was raised, and a number of peasants, armed with halberts, came rushing out to reclaim the booty and punish the plunderers. The fags dropped the goose, took to their heels, and managed to escape. When they came to talk the matter over, they unanimously attributed the failure to the fact that Thomas had neglected to bless himself on setting out that morning. They made no further attempt, however, to assert their peculiar rights, at least so openly.

Some marches from Breslau the bacchants quarrelled and separated, probably on account of the gettings of the fags, which, as Platter tells us, diminished to such an extent that they were nearly starved, the people being so obdurate that they had for the most part to lie out in the fields, and so watchful that the cleverest of the group could do little or nothing in the way of “conveyance,” as practised by poor scholars. At Breslau, however, things mended; and, as a result, the fags nearly choked themselves by eating too much,—Master Thomas, in particular, suffering severely from overfeeding.

They found several thousand poor scholars at Breslau, among whom a very characteristic organization had grown up in the course of time. The town was divided into seven parishes, each of which contained its school; and it was the rule that the pupils of one parish should never beg in another. Whoever attempted the trick was sure to be recognized as an interloper, and some such fate befell him as awaits the dog of Constantinople when he strays into a strange district. Cries of “At him, boys! at him!” (“*Ad idem! ad idem!*”) roused the fags of that particular quarter in a twinkling; and unless the intruder happened to be particularly fleet of foot, he was always kicked and cuffed to his heart’s

content before he managed to get home. Sometimes his comrades ran to the rescue, and if, as frequently happened, the bacchants took part in the fray that ensued, it was sure to grow to formidable dimensions. Many bacchants, says Platter, had grown gray at Breslau, having been maintained there by their fags twenty, thirty, and some of them even forty years ! As usual, our authority was a very successful beggar ; pliant and amiable, he made himself a general favorite with the householders, often bringing home as many as six loads of provisions of an evening. On one occasion a gentleman offered to adopt him, but his cousin would not hear of it, and Platter had been so accustomed to be controlled by this vagabond, that he dared not choose for himself. However, as he remarks, he never left that house empty-handed.

In winter the fags lay upon the floor of the school-room and the bacchants in small chambers, of which there were several hundreds attached to the school. But in summer the juniors gathered grass and slept in the neighboring churchyard. When it rained they ran into school ; and when it thundered they sang sacred music all night, for which the people usually rewarded them by an extra dole of alms. As for study, the fags generally did little, Thomas himself none at all, and not the slightest attention was paid to their morals. The elders, indeed, were not so utterly neglected, being instructed by nine professors, who all taught at the same hour and in the same room, much as follows :—The teacher first read the lesson—a passage from some Latin author—and the students wrote it down, pointed it, and then construed it ; so that each of them had several large books of notes to carry home with him at the close of the session. Some pious people had endowed a hospital exclusively for the poor scholars, and little Platter was several times an inmate during the short time he passed at Breslau. But so long as he remained therein he preferred to be on the floor rather than on the beds.

In a few months such numbers of poor scholars thronged into the town that even Platter found it difficult to eke out a subsistence ; and so this bacchant and himself, in company with six others, migrated to Dresden, suffering greatly from hunger on the way. In the neighborhood of Neumark, happening to encamp by a well a short distance from the wall, their fire attracted the attention of the watch, who discharged a culverin at them, but fortunately hit no one. This, however, did not spoil their supper. They had stolen two geese and plenty of turnips, begged salt and one or two other things, and got a pot somehow. So removing out of sight behind a coppice, they cooked their plunder and had a glorious feast. Then, lying down under the trees, they slept soundly, until roused toward morning by an odd noise. Going to ascertain the cause, they found a stream crossed by a weir and crowded with fish. Setting to work, they took a shirtful in a few minutes, and then resumed their march ;

and the day finished even better than it began : for a clown, whose mother had a strong desire to see a Switzer before she died, and who was thoroughly gratified in that respect by a good view of Platter, treated them that evening to beer and food without stint.

At Munich, which was their next goal, Platter scraped acquaintance with a soap-boiler, named Hans Schräll. This man had once been a Master of Arts at Vienna, but had abandoned letters out of pure disgust at the doings of the clerical body. In his company our sharpshooter spent some of his time, travelling about with him to buy ashes, and “making more soap than Latin by a very great deal.”

After five years of wandering, Paul Summermatter and Platter returned to St. Gall. Being young, the latter had learnt a little of every dialect then current in Germany, and he took due care to display his accomplishments. “Bless us,” said his relatives, “our Tommy speaks so profoundly that we can’t make out one half he says.” “But for all that,” he adds, “I did not yet know how to read.”

In a few days the pair set out again : this time for Ulm, taking with them a very little boy, named Hildebrand Klabbermatter. This youth received a piece of cloth for a coat as a parting gift from one of his relatives, and it was expected that they would soon beg money enough to pay for the making. And so they did ; for, says Platter, “through practice I understood the whole art of begging to a nicety. I could sound the good nature of carl and housewife at a glance ; knew when to whine and where to laugh, in what quarter to sing, and with whom to be saucy ; and could instantly discover what was coming—a staff, a groschen, or a parcel of broken meat—from the pursing up of the mouth.” But the coat was not very speedily made. That indeed would have been to have killed a goose which laid them a good many nice eggs, and the poor scholars were not so stupid.

As usual, Platter had to surrender all he received, not daring to eat a morsel without leave. But little Hildebrand, being something of a glutton, devoured the food nearly as fast as he got it. The little he brought home exciting the suspicions of the elder ones, they watched him, and caught him in the fact. That night there was a solemn gathering of the bacchants and sharpshooters belonging to the party. Hildebrand’s crime was discussed with due gravity, and sentence pronounced, and executed at once. Throwing the offender on a bed, the bacchants covered his mouth with a pillow to stifle his cries, and beat him without mercy. From that time forth there was no more gorging in secret among the fags. They preferred, as Platter declares, to drive the dogs in the street from their bones. A moving picture Thomas paints of the miseries he suffered at Ulm—hungry, frost-bitten, singing with woful heart under the windows far on into the night, afraid to return empty-handed, and

not quite sure of escaping punishment, however fortunate ; and he dwells gratefully on the occasional kindnesses which he experienced, especially from a certain pious widow ; how she used to chafe his hands and wrap his benumbed feet in furs, and minister in other ways to his pressing wants.

From Ulm they tramped to Munich. Here, too, the piece of cloth brought them in an ample harvest. But on returning again to Ulm, as they did a year later, and still parading the stuff with the usual cry, people began to suspect them. "What, the coat not made yet !" said one. "Get along, you are playing us tricks," said another. "I believe that coat will be worn out before there is a needle put in it," said a third. And he was not far wrong ; for what with trailing it about in all weathers, and squabbling with rival beggars, by this time the cloth had quite lost its gloss, and got several rents besides. "What became of it in the end, I know not," says Platter ; "but this I do know, it never made its appearance as a coat."

Another flying visit was paid to St. Gall, and then the party set off again to Munich. On their arrival the bacchants, as usual, betook them to a tavern, leaving the fags to shift for themselves ; and the latter, as nobody could be induced to give them shelter, resolved to pass the night on some corn-sacks which they had noticed in the market-place. But on this occasion they found better quarters than they expected. Some women who happened to be employed in the salt-house hard by, took pity on them, gave them their supper, and made them comfortable for the night. One of them, a widow, desired to keep Platter altogether, and he, nothing loth, remained, not showing again among the poor scholars for several weeks. But his bacchant could not afford this, so in great wrath he sought out Master Thomas and soon discovered his retreat. Platter was terribly frightened, but by the advice of the widow pleaded sickness, and so escaped for that time. On returning to school, however, Paul gave him a pretty broad hint of what he might expect if he persisted in taking such liberties, declaring that some day he would trample him under his feet. Thomas knew very well that bacchants were in the habit of keeping promises like this, and then for the first time it occurred to him to run away. He went back, indeed, to the widow for a day or two longer ; but on Sunday, getting up early in the morning and telling her that he wanted to go to school to wash his shirt, he hastened out of the city. But afraid to return to Switzerland, as Paul would be sure to pursue him in that direction, he crossed the Iser, and, placing the hill on the other side of that river between him and the city, sat down and wept bitterly.

In the midst of his tears, and before he had decided what to do, a boor came up with his wagon, and Platter rode on with him for ten or a

dozen miles. Then alighting, he made his way on foot to Seilzburg. The roads were covered with hoar-frost, and the runaway had neither cap nor shoes; his coat, too, nearly worn out and far too small, sheltered him but poorly from the blast. He was accustomed, however, to that kind of thing, and trudged bravely along. Failing to beg a passage down the Danube to Vienna, he thought of returning to Switzerland; but the direct road thither lay through Munich, and that he dared not take. So he went on to Freissing, where there was a school. After passing a short time in this place some of the fags warned him that "the big bacchant from Munich was looking for him, armed with a halbert." In his terror Platter started off directly for Ulm, and took shelter for a season with his pious widow, who received him gladly. But in eight months more his cousin, who by some means had traced him out, followed again in pursuit. Night was falling when Platter heard of Paul's arrival, but he took at once to the road, and made for Constance at the top of his speed. "He lost a good benefice in me," said Platter, speaking of his cousin. "I had supported him well in idleness for a good many years; no wonder, then, that he looked so sharply after me." However, they never met again. What became of Paul is not recorded. He may have sobered down and taken orders like so many more of those wild fellows whom Platter speaks of seeing absorbed into the priesthood without a single qualification for the office. He may have become an average curate, as such reverend gentlemen were in those days; or he may have preferred to play bacchant to the last, picking up fresh drudges, and clinging to them as the Old Man of the Sea clung to Sinbad, rambling from university to university, and realizing on the road such coarse pictures—especially night-pieces—as Fielding and Smollett delighted to paint.

As Platter crossed the bridge at Constance, and saw the Swiss boys in their white jackets, he declares he thought himself in heaven. But not choosing to remain in such a thoroughfare as Constance, he went on to Zurich; where he found some bacchants from St. Gall, and to them he offered his services as fag. One would have thought that he ought to have had enough of sharpshooting by this time; but it must be remembered that if he still wished to become a scholar—and, in spite of all his troubles and small success hitherto, that Platter did most earnestly—he had no other alternative. While at Zurich he received a message from Paul, who, wearying of the chase, had remained at Munich, promising to forgive him if he went back. But to this, of course, Platter paid no attention; and as his new masters proved in no respect better than the old one, he quitted their service, and travelled to Strasburg in company with one Anthony Benetz, a lad of his own age. At Strasburg they found a multitude of poor scholars, but not one good school, so they went on toward Schlestadt. A gentleman upon the way told them that this was

a poor place and overrun with poor scholars, a piece of information which drew tears from Platter's companion. "But," said Platter, "I bade him cheer up—telling him that if there was but *one* poor scholar who could make shift to live at Schlestadt, I would certainly be able to provide for us *two*. It was here that Platter began to study for the first time—being then eighteen—sitting with the little ones "like a great clucking hen among the chickens," as he expresses it. But this did not last long. Such was the influx of poor scholars, that by Whitsuntide he could no longer provide food enough for both, and they took again to the road—on this occasion toward Solothurn, where there was that poor scholar's paradise—a good school and plenty of food to be had for the asking. Here he found that too much time was lost in church for study to be pursued with advantage, and leaving Solothurn he turned his face homeward. "What devil has blown you here?" said his mother when the wanderer returned. "You a priest! No such luck, mine! You waste your time strolling about instead of learning, and I shall never be the joyful mother of a priest!" This was not very encouraging, and so Platter remained at home no longer than he could help. Before he set out again, however, he had learnt to write by the aid of a neighboring priest,—but not, it is to be presumed, the gentleman who had taught him to sing for eggs. Going off to Zurich, he met at last with a teacher to his taste—the celebrated Myconius, and his wanderings as a poor scholar ceased. Myconius drilled him into a thorough Latinist, and by hard and persevering study he made himself a good Grecian and a deep Orientalist. Becoming then a teacher himself, he rose slowly but surely in fame, closing his career at an advanced age, in great honor, at the head of the College of Basil.

All poor scholars, however, did not rely so completely on pure charity as the bacchants appear to have done. Many recommended themselves to hospitality by their social talents. In several quarters the flute or the rebeck as certainly betokened the student as the inkhorn or the book. And those who were not musical made amends for the deficiency by cultivating their powers of narration. Nor were these always mere temporary devices. Very frequently the poor scholar made a profession of them in after-life, and elected to be a minstrel or a raconteur in preference to a priest. Nor was the raconteur's by any means a poor line of business; that is, if he could gratify his audience with the latest novelty, and especially with the newest essay or poem of some current celebrity. These were the men of whom Petrarch writes—"Gifted with memory and industry, but unable to compose themselves, they recite the verses of others at the tables of the great, and receive gifts in return. They are chiefly solicitous to please their hearers by novelty. Often they beset me with entreaties for my unfinished poems, and often I refuse. But sometimes

moved by the poverty or worth of my applicants, I yield to their desires. The loss is small to me, though the gain to them is great. Many have visited me poor and naked, who, having obtained their request, have returned to thank me loaded with presents and dressed in silks." And it was to these men that the great writers of the middle ages owed that wide and rapid diffusion of their renown, which rivals what the press can do for the writers of the present day.

Other poor scholars again preferred to draw a subsistence from the superstition of the period. Sir Matthew Hale's device to pay a bill was a very common one with them. Many a scamp replenished his purse and his wallet by extemporizing gibberish over a field of young corn, or a promising litter of pigs; or by posting up nonsense on the door of barn or cow-house; or by penning a text on a piece of parchment to be worn round the neck by way of charm. And this last expedient, by the way, was far from being confined to the poor scholars. It was much in vogue with the monks, who drove a roaring trade in these amulets, to the great destruction of valuable manuscripts, which they made away with thus by piecemeal. The scholar, too, who could draw a horoscope or calculate a nativity, was always sure of good quarters. Such a character makes a prominent figure in many popular mediæval stories;¹—predicting a felon's doom for some unfortunate baby, and living to pronounce it in the character of judge, and to reverse it too—for some accident usually occurs to make the culprit known to him as the subject of his astrological calculations, and therefore, as a fit and proper object for his mercy. Often too, in times of high excitement, these vagabonds ventured boldly into the domain of the wizard. But in these cases, not being thoroughly versed in the vague obscurity and oracular reserve of word and deed affected by the genuine adept, they generally came to grief, as in the following instance, which occurred at Dijon during the madness of Charles VI. : Two scholars, named Poinson and Briquet, announcing that they had discovered the cause of the king's malady, and the means of restoring him to health, established themselves in a thick wood near the gate,—a spot very favorable to their operations. Having levied heavy contributions on the people, who, considering the object, scarcely dared refuse, they caused twelve pillars to be made, as many chains, and a massive circle, all of iron. They next set up the pillars in the wood, fixed the chains, and raised the circle to the top. This took up a good many weeks, but the wizards at least did not object, nor, as they lived in the midst of unusual plenty, had they any just cause. When the preliminaries were at last completed, a day was fixed for the incantation, and the whole city, and the country too, thronged thither to behold. As soon as

¹ As the collection called "The Seven Corse Masters."

the crowd had mustered, the wizards declared that it was now indispensable to pick out twelve men, who were to allow themselves to be chained to the pillars during the ceremony. One of these, indeed, it was admitted, was to be carried off by the demon, but—as the wizards rather cunningly put it—no loyal Frenchman could object to run the risk. A good many faces looked blank enough at this, but before any one could make up his mind to run away, a dozen names belonging to citizens of good repute, and all wedged in among the foremost ranks of the spectators, were read out, with the bailli at their head. And in a very few minutes every one of them, bailli and all, was coaxed into the circle, partly by dint of hearty elbowing, but chiefly because the crowd hinted pretty broadly that they had no alternative. The wizards chained them to the pillars, and then began to gibber and dance,—a game they kept up until everybody was tired, themselves included, but without producing any particular result. Much to the disappointment of the outsiders, nobody was whisked away, nor did even one solitary imp condescend to put in an appearance. At last it became too evident that the whole thing was a farce, and great was the indignation. The mob groaned, hooted, howled, and cast rubbish,—a great deal of which, but of course purely by accident, fell upon the respected person of the bailli, who swore pretty audibly to be amply avenged on the two impostors the very moment he got loose. The twelve good men and true reviled the wizards, and the wizards reviled the twelve good men and true, declaring that the latter had wilfully and of malice aforethought spoilt the incantation by secretly making the sign of the cross within the circle. Of course the wizards were arrested—one of them after a very smart chase—and led at once to the stake. But scarcely had the flames that consumed them expired, when a most destructive tempest burst over the district—it was then harvest-time—and this was universally attributed to the malicious spirits of the executed sorcerers.

The glimpses which history affords of mediæval manners—of the doings and the influence of such representative men as John Ball, Wolsey, Bishop Acunha, and Cardinal Fregosi, form an all-sufficient comment upon this kind of clerical training. Seeing them at their studies, we are not astonished to find clergymen figuring as they do in the tales of Boccaccio and the extravagances of Rabelais. In countless instances the pastors were, as these writers represent them, the agents of demoralization ; men who seemed to know but one text, “The heart is deceitful above all things, and desperately wicked,” and who only sought to illustrate it. As for the chaplains, they displayed much more of the pander and buffoon than of the herald of grace. And they recommended themselves to the favor of their patrons rather by the contrivance of amusement than the construction of homilies. Take the Abbé Delebaigne as an example.

This reverend gentleman, as Bouchet tells us, prepared a peculiar musical instrument for the delectation of Louis XI. He had a hamper made with a number of narrow compartments, thrust a live pig into each, and placed a cylinder, stuck with points and turned by a handle, across. He then covered the internal arrangements carefully from view, and had the machine carried into the royal presence. Pulling a very solemn face, he turned the handle, and the porkers squeaked like a hundred-and-fifty pairs of bagpipes, to the intense delight of the monarch—who then and there rewarded the deviser of this, the first hurdy-gurdy on record, with half-a-dozen fat livings.

IS BEING DONE.

THIS form of speech, more than any other that we know, has been opposed by word critics and grammarians generally. Some have spoken of it simply as uncouth English, or a new-fangled phrase; while others have called it by harder names,—“a clumsy solecism,” “an incongruous and ridiculous form of speech,” “an awkward neologism, which neither convenience, intelligibility, nor syntactical congruity demands.” These writers, however, have not satisfied themselves with the use of single expressions. Many have been the pages that have been penned from time to time, to show that the form has no legitimate claim to adoption, or to ridicule it, if possible, out of the place it has gained in the language. But the stupidest is that which some time since appeared in one of our literary monthlies. Instead of candor and intelligent argument, calculated to command the respect and compel the assent of thinking people, it presents us with a pitiful display of prejudice and ignorance, attempting to carry the day by means of ridicule and disgusting puerilities.

Most writers speak of the participle in *-ing*, in such sentences as “The house is building,” “The garments are making,” “Wheat is selling,” as used “in a passive sense.” But this is wrong. It is simply an *intransitive* use of an ordinarily transitive participial. “The house is *building*” is grammatically equivalent to “The house is *going up*,” or “The house is *increasing*.” Of course, the act of building is not something done by the house of itself, any more than is its going up or its increasing. And yet the sentence “The house is building” predicates action of the house as truly as does the sentence “The house is going up.” No one ever thinks of considering *going* here as used “in a passive sense.” It is simply intransitive. So is *building*. So, too, are the participles in the following sentences, however frequently they may be otherwise used in other connec-

tions: "The dinner is *cooking*," "A storm is *brewing*," "The third volume is now *printing*." For, though we can say "The dinner is cooking *under* the mistress's own direction," "A storm is brewing *in* the west," "The third volume is now publishing *at* the Harpers," we cannot say "The dinner is cooking *by* the mistress herself," "A storm is brewing *by* the elements," "The third volume is publishing *by* the Harpers." The reason is that the form is neither passive nor used in a passive sense.

To illustrate the case still further, take the word *widening*. Using it transitively, we may say "The men are widening the stream." Using it intransitively, we may say "The stream is widening." But this, though really an employment of the participle in what the grammars call "its passive sense," happens to represent the stream as itself doing something. If we want to speak of the widening as done by other agents, and still use the word *stream* as the subject, we must resort to some other form of speech. Yet we cannot say "The stream is widened." This would imply that the work of widening is no longer going on. We must say "The stream is in process of being widened," or something similar.

But we should like just here to inquire for a moment why we can say "The house is building," and yet, in attempting to convey the same form of thought, cannot say "The stream is widening." The reason we conceive to be twofold. In the first place, in a sentence like the former the thing spoken of is incapable, of itself, of doing literally the deed attributed to it. Thus, while wheat is capable of growing, and we can say literally "Wheat grows," we cannot say "Wheat sells," in the sense in which we use *sells* when we say "The farmer sells wheat." But, by a sort of figure, we are allowed to say "Wheat sells well," or "Wheat is selling." We say "by a sort of figure," for an act is attributed to the thing spoken of,—wheat, in this instance,—which literally that thing is incapable of performing. Hence, a figurative sense, if any at all, is of necessity given to the verb or participle. So in all such cases, as "The house is erecting," "The book is printing," "A storm is brewing," "The bread is baking," "The tea is drawing," etc., etc. Change these subjects to the names of agents capable of performing the literal act specified, and we change the meaning,—we *may* make nonsense—unless we supply an object. Try it: "James is erecting," "William is printing," "John is brewing," "Sarah is baking," "Mary is drawing," etc.

In the second place, it will be observed that, in order to convey this seemingly "passive sense," these words are and must be invariably used *intransitively*. If a verb like *erect*, or *make*, which is usually transitive, can be employed in accordance with the form "The house is building," it cannot be as a transitive verb. If it cannot be used intransitively without ambiguity or nonsense, the form cannot be legitimately employed. Hence, we can hardly say "The horse is whipping," meaning that the

horse is receiving a whipping, or "The door is unbarring," to indicate that some one is unbarring the door, or "The book is studying," as an equivalent for "Some one is studying the book."

Under these circumstances, along with the desire of embodying these and similar ideas in words without introducing the name of the agent of the act as transitively expressed, the query naturally enough arises, What form of words shall we use? Shall we always have recourse to a circumlocution more or less tedious, or can we not tersely and correctly express the idea intended in some other way? We say "The men are widening the street." We wish to express the same passively. But we cannot say "The street is widening by the men." This makes nonsense. Nor can we convey our meaning by saying "The street is widened;" for that expresses a discontinued action. Why can we not say "The street is being widened?" *Being widened* is simply the passive for *widening*. Why is not *is being widened* the legitimate passive for *is widening*? Compare

Active. The boys *are mending* the nets.

Passive. The nets *are being mended* by the boys.

Active. I *was teaching* you to write.

Passive. You *were being taught* to write by me.

To this it is objected—

1. That the form is new. Granted. Was there never a time when other forms were new? If the objection has any force, we must abandon the idea of ever having any more words or forms of speech in the language.

2. That it is unnecessary. In the strict sense of the word, this may be true; that is to say, we can get along without it. So we might dispense with a thousand other forms the use of which is a great convenience. The very fact that the form is and has been used extensively and by good writers, is of itself presumptive evidence that, if not strictly necessary, it is certainly called for as a convenience.

3. That it is awkward. For aught we can see to the contrary, this charge is just as true against "Is becoming straightened," "Is growing accustomed to it," "Has been in course of relinquishment," and a number of other expressions, as it is against "Is being done." If the latter cannot be used on the score of clumsiness, a thousand other forms in good repute should be abandoned also.

4. That consistency would require our using "*has been* being built," "*had been* being built," etc.;—on the principle, we presume, that if it is right and proper to say "I *do* love" and "I *did* love," consistency requires that we also say "I *have done* love," "I *had done* love," etc.; or, if it is proper to say "The house *is* to be sold," and "The house *was* to be sold," consistency demands that we should also say "It *has been* to be sold," "It *had been* to be sold," etc. !

5. That the verb *to be* cannot be a complement to itself, on the ground that it is equivalent to *to exist* and always predicates existence. To this we have just four things to say.

a. The verb *to be* does not always *predicate* existence. It denotes being, of course, and therefore *implies* existence just as thousands of other verbs do. If I can strike, the very fact of my possessing the ability to strike implies that I exist. Just so, if I am striking, the bare fact of my putting forth the act implies that I am. But, in the sentence, "I am striking," *am* no more predicates existence than does *can*, in the sentence "I can strike." The former sentence predicates the present putting forth of the act of striking; nothing more: the latter, a present ability to put forth such an act. That the verb *to be*, as an auxiliary, is not a synonym of the verb *to exist*, requires no labored argument to prove. If these verbs were "perfect synonyms," as it is said they are, then the sentence "I am not living, I am only existing," would be palpably and ridiculously contradictory and tautological; for the sentence might as well read "I *exist* not living, I *exist* only existing," or "I *do* not *exist* living, I *exist* only existing," which again may, of course, be converted into "I *do* not *be* living; I am only existing." According to the same doctrine, the sentence, "The old type of British knighthood *was* felt to exist in full force in him," is equivalent to "The old type of British knighthood *existed* felt to exist," etc. "Whately *was to be* the new archbishop," is equivalent to "Whately *existed to exist* the new archbishop;" and "He *was to have been* here before," to "He *existed to have existed* here before!" Synonyms, indeed! *Credat Judæus Apella!*

b. Again, the statement that the verb *to be* cannot be a complement to itself is an untruth "so palpable, so monstrous, so ridiculous, that it needs only to be pointed out to be scouted." Take the sentence "He was to have been here before." What is *to have been* but a complement to *was*? *Was* may not be in the grammarian's view "an auxiliary." But it certainly is nothing else,—as truly an auxiliary as *should* is, in the sentence "He should have been here before." And to one whose knowledge of English grammar is not merely something derived from Ben Jonson and Murray or from the study of Latin Grammars, *to have been* is as truly a complement of *was* as it is of *should*, and might be of *ought*, or of many another verb. Compare also, "That which *is to be* hath already been,"—*is to be* being equivalent to *may be* or *will be*.

c. A proper analysis of the form *is being made* will show that *being* is not a complement of *is*, nor is *is* an auxiliary of *being*. The root or basis of the expression, evidently, is the word *made*. It embodies the main thought, and on it the stress comes in utterance. But, auxiliary to this basis, with a view to express a continuance of the act denoted by it, is the word *being*. Then, auxiliary to *made*, thus compounded with and modi-

fied in meaning by *being*, comes *is*, containing the wording or asserting element. *Is*, therefore, is really complemented, not by *being*, but by *made* under a modified form. To illustrate this yet further, take the combination *is made*. Insert some word or phrase between its component parts, as follows,—“*is not made*,” “*is really made*,” “*is to be made*,” “*is on the point of being made*,” etc. In each of these, the auxiliary *is* is complemented by *made*, modified in meaning by some word or phrase. Now what we hold, and what we believe must be clear to every one, is that, in the form *is being made*, *is* sustains precisely the same relation to what follows it as in the foregoing and in all similar cases, and that the complement of *is* is not *being*, any more than *not* or *really* or *to be* or *on the point of being*, but the modified passive participle that follows, whether modified by *being*, or any other allowable word or expression.

d. This objection comes with very ill grace from those who hold that *is making* is but an abridgment of *is a-making*. For, if this is true, *is being made* must be an elliptical form for *is a-being made*. And, if this is the case, *being made*, like *making*, is not the complement of *is*, but the object of the obsolescent preposition *a*. The objection, therefore, that the verb *to be* is here an auxiliary to itself, and consequently improper, must be abandoned; or else the idea that *is making* is only an abbreviation of *is a-making* must be given up. We leave it to those whom it concerns, to say which horn of the dilemma they will take, or whether they will take either.

6. That it is an incongruous form of speech, not conveying the idea intended. It is designed to express continued passivity, sometimes present, sometimes past. To the minds of multitudes, even though they may never use the expression, it certainly does convey this idea. If the sentence “The street is being widened” represented, as the objection virtually says it does represent, the action as going on and at the same time completed, it might with justice be objected to. But such is not the case. If we say, “The street is wide,” we assert respecting the street a state involving no idea whatever of action. Hence, such a phrasing as “The street *is being* wide” for “The street *is* wide” would be an incongruous, unmeaning tautology. Now when we say “The street is widened,” the words in like manner assert the present condition of the street. But it is a condition involving the idea of action,—not necessarily, however, of “completed” action, but properly of *suspended* action. The insertion of *being* into the predicate—“The street is being widened”—removes the suspension. It represents the action as being or existing,—as no longer suspended, and consequently as continuing. And this is all that is claimed for it. The expression properly employed, therefore, legitimately conveys no other idea than that of continued subjection to an action, the character of which is denoted by the passive participle.

We say "the expression properly employed ;" for we admit that it is not every transitive verb that can be legitimately employed under the form *is being done*. Many passive participles—and "passive" is what we mean, though some prefer to designate the simple participial form in *-ed*, like *loved*, as past—many passive participles convey the idea of continued action. Such participles cannot be separated from *is* or *are* by the insertion of *being*. "Nobody," says Bullions, "would think of saying 'He is being loved.'" This is very true. *To love* is one of those verbs which, in the present, whether active or passive, denote a continuance of the act. Hence, no one who knows how to speak English ever thinks of saying "He is being loved" any more than "He is loving,"—though Brown and others seem to regard the latter as a good English transitive-verb form, and insert it in their grammars.

- The following afford examples of other verbs of the same class : "His style has been, *is*, and will be abundantly *imitated*."—*H. Martineau*.
- "The generality of the world *are fettered* by rules."—*Steele*. "Busy multitudes *are employed* withindoors in the drawing up of writings and conveyances."—*Addison*. Not merely is the introduction of *being* before these participials unnecessary ; it would be positively wrong, burdening the expression with redundancy, as much so as would the insertion of *being* before *wide* in the sentence "The stream is wide." But take a transitive verb like *widen*, or *strike*, which does not convey the idea of continued action, and which therefore admits of the form *is widening*—"The men *are widening* the street"—in order to express this idea, but which does not allow of the intransitive use of that form, and we shall find that the case is materially changed. We quoted just now the words of Addison, "Multitudes are employed," etc. Compare with these the sentence "The stream is widened." The difference is obvious, so far as the form of the thoughts is concerned. The former conveys the idea of an existing, continuing act ; the latter, of an act not in continuance. To express its continuance, it is necessary to insert the word *being*,—"The stream is being widened." It will be observed, therefore, that in all cases in which the ordinary "passive" form, so called, expresses a continuance of the act, *being* should not be employed ; but when the usual passive form does not express progression, *being* should be employed. The following presents a violation of this principle ; "Strong efforts *are made* to procure his discharge." If the passive form must be used here instead of *are making*, it should be *are being made*. *Are made* does not truly express the idea of a continuance of effort. If that idea is obtained, it is rather by inference than otherwise. The words undoubtedly imply action belonging to what is called present time. But that present is not a "progressive present ;" it is rather "the repetitive present," denoting what occurs or is done from time to time. Compare the two sentences, "Efforts

are making to secure his pardon," "Efforts are made on his behalf." The former asserts the present *continuance* of *the act* (of making); the latter, a *succession* of *acts* (efforts), occurring at intervals not yet completed, and so belonging to present time and requiring a verb in the present tense.

We wish now to give a few cases in which we think the use of the form *is being made* is justifiable. Marcel, on Language, vol. ii., p. 67, speaks of "the rapid and careless manner in which words are usually repeated when *being committed* to memory." This is but an elliptical form for "When they *are being committed* to memory." It is obvious, he could not have said either "when *committing*," or "when *committed* to memory," without conveying either nonsense or a false meaning. A similar statement may be made concerning the participial in each of the following examples. "It was being uttered."—*Coleridge*. "The foundation was being laid."—*Brit. Critic*. We wish our readers to judge for themselves whether Gould Brown and his followers are really correct when they say that, instead of these, "it would be *much better* to say 'It [i. e. the sentence] was uttering,' 'It was uttered,' or 'It was in uttering,' ['It was a-uttering' perhaps!]" and 'The foundation was laying' [suggestive of a hen's laying] 'The foundation was laid,' or 'The foundation *was about being laid*.'"—*Brown's Gr. of Gram.*, p. 384. Do these forms really express the idea intended? Not one of them; not even the last, the idea being there misrepresented by the insertion of the word *about*. How, then, can they be preferable to those they are proposed to be used for? We add two or three more: "Some were being slain, others captured."—*Watson's Sallust*. "The good are being gathered into life."—*Mrs. Stowe; Pref. to Sun. Mem.* "The birth-place of peoples and tongues and faiths is being forced to render up her embosomed mysteries; the sphynx riddle is being read; the buried treasures of barbaric art are being brought forth to the light of day, and are being caused to read a story that extends away down to the bosom of the antique by-gone."—*Put. Monthly*, Nov. 1854. In all these examples, unless possibly in that from Mrs. Stowe, if we wish to preserve the idea that the things are *in the act* of being done, neither the intransitive form in *-ing*, nor yet the simple passive participle will do to be substituted for the compound form.

Thus, we see that there are certain cases in which the true participial form to be employed is that in *-ing*, used intransitively; certain others, in which the passive participle should be employed; and yet others, in which the compound participle *being done* is preferable, for the reason that neither of the foregoing forms can be employed, without the adoption of a different verb (as, "The deed is *attended* with [instead of 'is *being followed* by'] unexpected consequences"); while, on the other hand, the *is-being-made* form is briefer than any other and quite as expressive.

TEACHING HISTORY.

THE successful teaching of history is acknowledged to be one of the most difficult duties of an instructor: so difficult indeed, that many give it a subordinate place, and Normal Schools rarely attempt to fit their pupils for this department. Any child can be taught certain facts and dates, by a due amount of perseverance and drill. But it is quite another thing to give a scholar a distinct, collective impression of any course of events. Mnemonics may help the memory to retain dates, but dates are only the pegs upon which History, like wrought tapestry, is hung—the machinery that rolls the panorama before the eye. It would seem that this study is natural to most minds. The youngest child listens eagerly to a well-told story, and likes it the more when it is true. What is History but a continuous true story? Why should it not be taught on this principle?

Take, for example, United States History. First give a few general topics, as, What is History? Its value? Its periods? and others of like character, so that the pupil receives a clear conception of what he is about to acquire. Begin then, say, with the discovery of America by Columbus. Do not be satisfied with ascertaining by questions that he knows from what port Columbus sailed, and on what day he touched Guahani's Island. Require each member of the class to begin at the beginning, and tell the story through in his *own* language. Columbus's applications at the courts of Europe, his defeats and successes, his starting, his voyage, his picturesque landing, must all be as distinctly and connectedly related as though no other events had ever occurred. Not even Columbus's early life belongs to the subject, but should be given as another topic, the whole to be related as any man's life would be told; his voyages to America being some of its incidents. It may require several recitations to bring the class to the desired standard, but having accomplished one subject in this way, others will not be so difficult. Write the topics to be given to the class according to the subject, not in connection of time. It will assist the pupil, where the topic is long, to write an account, leaving out all episodes. But, you will say, the mind will thus have its pictures, but they fail of any connection. But hear us through. Having gone in this way over the first period, review in the order of time. The separate images will fall into their places, the tapestry before wrought will be hung on its hooks. The whole book being completed in this way, there yet remains the fixing of these impressions. The subject naturally divides itself into five parts. (1) The settlements of the States. (2) The colonial wars. (3) The Revolution. (4) The Administrations. (5) The late war. Each pupil is required to make a list of the dates of

settlements—by whom and where; the colonial wars—between whom and when; the battles of the Revolution, with dates; the principal events of each Administration, and the dates of the battles of the late war;—all to be committed to memory. Scholars that have studied history for two or three years by other methods and remembered little or nothing about it, assure us that they will never be able to forget what they have learned by this plan. All the varied information of the teacher is thus brought out to enliven and fix the subject. It would seem, also, that the subtle tracing of effects from causes, that belongs to the true historical mind, can thus be most easily pursued.

A LESSON IN TEACHING.

IN a letter to the *Ledger* explaining his persistence in declining honorary degrees, Henry Ward Beecher gives the following account of how he was taught to conquer in studying, and to stick to what he had learned. The teacher was William P. N. Fitzgerald; the school, Mount Pleasant Classical Institute, Amherst, Mass.

“I first went to the blackboard, uncertain, soft, full of whimpering. ‘That lesson must be learned,’ he said, in a very quiet tone, but with a terrible intensity, and with the certainty of Fate. All explanations and excuses he trod under foot with utter scornfulness. ‘I want that problem. I don’t want any reasons why I don’t get it.’ ‘I did study it two hours.’ ‘That’s nothing to me—I want the lesson. You need not study it at all, or you may study it ten hours—just to suit yourself. I want the lesson. Underwood, go to the blackboard!’ ‘Oh, yes, but Underwood got somebody to show him his lesson.’ ‘What do I care how you get it? That’s your business. But you must have it.’

“In the midst of a lesson, his cold and calm voice would fall upon me in the midst of a demonstration—‘No!’ I hesitated, stopped, and then went back to the beginning; and, on reaching the same spot again—‘No!’ uttered with the tone of perfect conviction, barred my progress. ‘The next!’ and I sat down in red confusion. He, too, was stopped with ‘No!’ but went right on, finished, and as he sat down, was rewarded with ‘Very well.’ ‘Why,’ whimpered I, ‘I recited it just as he did, and you said No!’ ‘Why didn’t you say Yes! and stick to it? It is not enough to know your lesson. You must know that you know it! You have learned nothing till you are sure. If all the world says No, your business is to say Yes, and prove it!’”

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION IX.—*Sulphur and its Compounds.*

SULPHUR, or Brimstone, is obtained at the shops in three different forms: in irregular lumps, just as it is delivered in bulk by the cargo; in cylindrical sticks or bars, known as “roll-sulphur;” and in a soft powder called “flowers of sulphur.” Either form is suitable for exhibition of the properties of this element.

Sulphur is insoluble in water (consequently tasteless), inodorous at ordinary temperatures, and readily fusible.

Exp. 92. Put some sulphur in a test-tube and apply the flame of a spirit-lamp. It melts at a temperature a little above that of boiling water, becoming a thin liquid easily poured, and of course readily convertible into the form of *roll-sulphur*, by pouring into cylindrical moulds.

Exp. 93. Put a small bit of sulphur in a test-tube and apply heat as before, but continue it until the whole has been *sublimed*. It will be found in the form of “flowers of sulphur,” adhering to the upper part of the tube.

Exp. 94. Fill an old cup or crucible half full of sulphur, and apply a gentle heat until it is entirely melted. Set it aside until by cooling a tolerably firm crust has formed over the surface. Break a hole in this and pour off all that will run out. If the cup be broken so as to expose the mass of sulphur in the bottom, a quantity of crystals will be exhibited.

This experiment may with care be shown on a small scale by using the bowl of a common clay pipe instead of a cup. The stem of the pipe serves as a handle.

Exp. 95. Fill a large-sized test-tube nearly full of sulphur, and apply a strong heat. The sulphur melts as before, but upon continuing the heat it becomes dark-colored and thick, and at a still higher temperature (500° F.) it is again a thin, dark-colored liquid. Pour the contents now into a glass of water, and the sulphur immediately takes the form of an elastic gum, which may be easily moulded by the fingers. It is often used in this condition for taking impressions of medals. It resumes its ordinary brittle condition in the course of a few hours.

Exp. 96. To a test-tube half full of a strong solution of potash add as much flowers of sulphur as can be taken upon a penknife blade, and boil for ten or fifteen minutes. The liquid assumes a brownish tint as it dissolves a portion of the sulphur. After boiling, let it stand for a few minutes to settle and cool; then pour off the clear liquid; add about as much water, and finally add vinegar or dilute sulphuric acid. The dissolved sulphur is precipitated, causing the liquid to assume a milky ap-

pearance. When this is filtered, washed, and dried, it is called "milk of sulphur." It is of a very pale yellow color, and is simply sulphur in its finest state of subdivision.

There are several compounds of sulphur and oxygen, all of which are acids. Only two of them, sulphurous and sulphuric acids, are of sufficient importance to receive attention in an elementary course of chemistry.

The former is produced whenever sulphur is burned in oxygen (Exp. 38) or in the open air. Its power of bleaching is easily shown.

Exp. 97. Put a piece of sulphur as large as a small marble on a bit of slate and set fire to it. A cylinder of pasteboard four or five inches in diameter and a foot high will form a convenient chimney to set over the burning sulphur to direct the acid fumes upward. The cylinder should admit a little air at the bottom. If a colored rose, moistened or wet with water, be held at the top of the chimney it will be rapidly bleached.

The color may be restored by washing the rose in water to which a little sulphuric acid has been added.

Exp. 98. Sulphurous acid gas is evolved rapidly by boiling one part of copper chips or filings with four parts of sulphuric acid. If conducted by a tube into water, it is rapidly absorbed, and the solution acquires the properties of the gas.

Exp. 99. Pour a little of the sulphurous acid solution into an infusion of logwood or red cabbage. It is promptly bleached. The color may be restored by a few drops of sulphuric acid. Sulphuric acid or oil of vitriol is employed more extensively than any other acid by chemists and manufacturers. It is made on a large scale in many places.

The process consists in first making sulphurous acid by burning sulphur, and then conducting the fumes into an enclosed room lined with lead, where the gas is mixed with nitric or hyponitric acid gas, steam, and air. The former of these gives up oxygen to the sulphurous acid, converting it into sulphuric, and then recovers the amount thus lost from the air. A little water at the bottom of the chamber absorbs the newly formed acid, and is afterward boiled down to the proper degree of condensation.

This important manufacture may be illustrated in the class-room by the following experiment.

Exp. 100. Prepare a jar capable of holding two gallons, with a cork through which pass four bent tubes and one straight one. Put in two or three ounces of water. Prepare a flask for making nitric oxide, as in Exp. 60. Also a flask for sulphurous acid, as in Exp. 98. A third flask must be employed for generating steam. Connect these with the large jar and set all the processes in operation. Supply air by occasionally blowing in through the fourth bent tube, taking care to avoid inhaling any of the contents of the jar. The straight tube, an exit tube for the extra steam and gas, will prevent too great pressure.

Twenty or thirty minutes is sufficient time to exhibit the process, and to show the presence of sulphuric acid in the water in the bottom of the jar. The *test* given in the next experiment may be applied.

Exp. 101. To a glass of water containing a few drops of sulphuric acid, add a little clear solution of nitrate of baryta. A white precipitate of sulphate of baryta is formed.

Exp. 102. Fill a test-tube one-fourth full of water, and then add twice as much (by bulk) of strong sulphuric acid. The heat developed is too great for the hand to bear.

Exp. 103. Dip a pine stick into a little strong sulphuric acid. The stick is composed of hydrogen, oxygen, and carbon. The affinity of the acid for the two former is so great that they are abstracted at once, leaving the carbon. This is shown by the stick becoming quite black.

Combinations of sulphur with the metals, called sulphides or sulphurets, occur abundantly in nature. Their artificial preparation will be referred to in experiments with the metals. The protosulphuret of iron is so important to the experimenter that its preparation is described here.

Exp. 104. Mix two parts by weight of flowers of sulphur with three parts of iron-filings. Put the mixture in an earthen cup or crucible (or, to operate on a very small scale, in a pipe bowl), cover carefully with sand and clay, and heat to redness in the stove. The sulphur and iron will combine. By taking a little longer time, it may be prepared in the following manner.

Exp. 105. Mix the sulphur and iron-filings as in the last experiment, and add enough water to make a very thick paste. Set aside for an hour or two. The heat evolved shows that the process is going on satisfactorily.

Sulphuretted hydrogen, the only compound of hydrogen and sulphur, although a disagreeable-smelling gas, is in almost constant use by the analytical chemist, and is an interesting reagent to the experimenter. It is easily and rapidly made by the following process.

Exp. 106. Put half an ounce of protosulphuret of iron, made as in *Exp.* 104 or 105, into a bottle provided with a conduction-tube similar to that employed in *Exp.* 40. Pour on a couple of ounces of dilute sulphuric acid. The gas is evolved rapidly, and may be passed into water, as in case of chlorine, and the solution preserved for experiments upon the metals. Do not inhale the gas.

Exp. 107. Make a weak solution of acetate of lead, and by using it on a brush, write or draw a picture upon white paper. While it is still moist expose it to the gas as it is evolved from the sulphuretted hydrogen generator. The picture or inscription turns rapidly black.

If the picture has been allowed to dry before applying the gas, the result may be produced by pouring over it some of the solution prepared as in *Exp.* 106.

SEPTEMBER, 1869.

NEED OF UPPER SCHOOLS IN THE UNITED STATES.

IN the June number of *The Nassau Literary Magazine*, the organ of the Senior class at Princeton, President M'Cosh expresses the opinion that the one educational want of the country at this present time is a set of schools between the common schools and the colleges. "Between these two, the highest and the lowest, there seems to be a 'great gulf fixed' in many parts of the country, indeed throughout the most of the States." Our American Education, he goes on to say, has admirable elementary instruction, and an abundance of colleges; but in many States it has no adequate means for enabling our clever boys to rise from the lower schools to the collegiate institutions. This lack of high schools is most severely felt in the Southern States; yet it prevails to a deplorable extent in the border States also, and in the southern tier of Middle and Western States. From the complaints that come up from these parts of the country, Dr. M'Cosh is sure that there are hundreds, and he believes that there are thousands, of young men of bright parts and high literary and scientific tastes and appetites, who are kept from rising to a higher culture by the single circumstance that they have not had an opportunity of receiving, in early life, such an education as would fit them for entering the colleges. It is not solely as feeders to the colleges, however, that he would have such higher schools established; though considered in no other light than this, he believes that their value cannot be over estimated. He pleads for them on broader grounds. By far the greater number of the pupils of such schools would go out directly to their varied professions in life with much more highly cultured minds than they could hope to possess under the existing system; and it is through the elevation of these that the higher education would accomplish the most beneficent results in raising the grade of general culture among us.

In the matter of elementary instruction, he admits that our State system is, as a whole, inferior to that of no other country ; but he cannot say as much for our supply of upper schools or academies. "In every town and centre of population in Germany there are such educational institutions, with four, six, or eight, or ten, or twelve professors, giving high instruction in all the branches of literature and science, to youth from ten to eighteen years of age. A few years ago there were in Prussia 259 such schools, including 145 *Gymnasias*, in which languages, ancient and modern, occupy a high place ; and 65 *Real Schulen*, in which science is the predominant element. Armed with an order from the Prussian Government, I inspected a number of these schools a few years ago, and I found them in a state of most admirable efficiency, and helping more than any other agency to elevate the Prussians in the scale of nations. I found similar schools springing up in Austria, and raising up a well-educated middle class in the midst of abounding superstition. When I was in Holland, in the autumn of 1867, I found a well-organized set of literary and scientific schools in the leading towns of that country. All these schools in Germany and Holland are supported by the State. In England there is a large body of old endowed schools giving high instruction in classics, but not otherwise doing much good ; but in these reforming times the funds are certain to be turned to good account. In Scotland the teacher of every parish school knows Latin, and is prepared to give instruction in that language ; and in all towns of any size there are Burgh schools, with masters teaching Latin, Greek, French, and mathematics."

Advantages like these are not enjoyed by American youth, except, perhaps, in two or three States. Massachusetts, for one, has "considerably upwards of one hundred high schools, not including those in the city of Boston." "Connecticut has been striving to match the Bay State in this respect, and will no doubt succeed, and the other New England States will follow,"—a long way off, we are sorry to believe ; there being less to be hoped for from "the other New England States," not excluding Connecticut, than from many of the younger and more wide-awake States of the West. "New York State," he continues, "has also been seeking to organize its academies and high schools, and has had considerable success. But when we come farther south, to the States which are the main feeders of Princeton College, we find that very little has been done for the promo-

tion of a higher education in schools." As a consequence of this lack of high schools, "the promising boys of these States are placed at a great disadvantage when compared with the same class of youths in Massachusetts, in Germany, or in Scotland." Admitting the too apparent fact, the question arises, How can the evil be mitigated or entirely removed, soonest and best? Dr. M'Cosh seems to think by the establishment of new schools of the required rank; and he expresses the determination "to press this subject on the attention of enlightened men till they are aroused to a sense of its importance."

In view of the difficulty of persuading the public to establish a new order of schools,—especially since in the places where such schools are most needed the people are least willing to sustain *any* schools,—would it not be better to have the work begun, so far as possible, by institutions already established? That it could be done very largely with existing means, we are fully persuaded, and by means that are now largely going to waste.

The country is full of colleges and universities, so called, scores of which, more or less amply endowed, are endeavoring with fifth-rate professors and illy-prepared students to do the work that is done at Harvard and Yale. Aiming too pretentiously, they are shams. Aiming lower, they might do well much good work that is urgently needed, and which would redound to their own honor, and the benefit of multitudes of students who are now spreading themselves over courses so broad and high that their resulting scholarship is transparently thin. Unprepared for high culture, it would be impossible for such students to receive, in the time allotted, a genuine college training from the hands even of first-rate professors; much less at the hands of such as these weak institutions can command. Yet these same institutions, with their present equipment, might easily give their students the less ambitious, but, under the circumstances, vastly more profitable secondary instruction which they are prepared to receive, and which would fit them either for immediate entrance upon the ordinary employments of business-life or for pursuing successfully a first-class college course.

A hundred years hence our multitude of colleges and universities may possibly be needed *as such*. By that time, too, we may have a sufficient number of thoroughly educated professors to man them. But just now they are not needed, and cannot be sustained as colleges of the first rank.

As third, fourth, and fifth-rate colleges, they are almost a nuisance. As first-rate schools of a lower grade, to which they could readily be converted, they would be needed, and might go far toward supplying "the one great educational want of the country." Whether they would be willing to forego great pretension for greater usefulness, is the only question.

KINDERGARTENS.

ANOTHER educational need of the country, and one that many consider more urgent even than the need of high schools, is a class of schools equivalent to the German Kindergartens. For the larger proportion of the pupils of the primary schools, the subjects there taught and the methods of instruction pursued, are grievously unsuitable. And there are besides, especially in the larger towns and cities, multitudes of children too young to be admitted to the public schools, yet old enough to receive and to be greatly in need of systematic physical, mental, and moral training. For such children, Froebel's system is peculiarly well adapted; and as fast as teachers and parents become acquainted with its merits, Kindergartens become a public necessity. We have no doubt that before many years they will be found in every community. One thing that has delayed and still delays their introduction, is the lack of properly qualified teachers. Teachers have had no means of qualifying themselves for the work short of an impossible sojourn in Germany. This difficulty, however, we are happy to learn, is likely soon to be remedied. In Boston, Mrs. and Miss Kriege, two thoroughly trained Kindergartners, have opened a genuine Kindergarten, with a training school for teachers; while in Springfield, Mass., Prof. Wiebé, a disciple of Froebel, has opened an Institute consisting of a Kindergarten, a primary class, and a training school for imparting information gratuitously to those who are desirous of becoming acquainted with the system. From him Froebel's method has already been acquired by several teachers; and, as a result, has been introduced into two of the schools connected with the State Institution at Monson, Mass. There is reason to believe that Kindergartens will also soon be made a part of the school systems of Boston, Mass., and Syracuse, N. Y.

CORRESPONDENCE.

WHERE WORMAN GOT HIS "ORIGINAL" EXERCISES.

MR. EDITOR: Some time ago you expressed to me the opinion that there was not, nor possibly could be, anything worse than the "points" of Worman's so-called German Grammar, which I had exposed. Allow me to say that you were grievously mistaken. There *is* something worse,—and nowhere else than in the very book of this "rising" personage. Only Worman can beat Worman.

When this gentleman was looking about for some "intrinsically valuable" work, that might render him for his projected *French* Grammar, the same service that he had extorted from Otto in *German*, he lighted upon two nice little books published in Germany, for German students of French, and written by a man who goes by the name of Ploetz.¹ He thought he might put them under contribution for his *German* Grammar, and make a good thing of them. The numerous exercises (*German*, for translation into *French*) made his mouth water; and as he had taken the *rules* of his Grammar from Otto (because, as he assures us, it would have been a simple injustice to the student to withhold them), he decided, doubtless, for the same reason to *borrow* Mr. Ploetz's *Exercises*. In adopting this course it apparently did not strike him (in his solicitude to do good to his prospective students) that the exercises of Ploetz were made for German students of French; and that the author had avowedly adapted their construction and wording to the French idiom, with more or less violence to the vernacular. Perhaps Mr. Worman thought he ought to mix the idioms a little, considering the pure German too hard; or may be he overlooked the Gallic garment of that German in his zeal to benefit American students; or—not to put too fine a point on it—*he did not know it was bad German*. However that may be, he adopted the exercises *en masse*, so that you will scarcely find in any of his exercises, colloquial or otherwise (Oh Gaspey!), one single sentence not transcribed from Ploetz. Occasionally he may have had a little misgiving at the queer style; but, unfortunately, he changed the construction where he ought to have left it untouched, and left it where it ought to have been changed. So, for example, he altered the German "Will you become merchant," which is equally good for both French and German, into the un-German form, "Will you become *a* merchant;" but left unchanged "All dogs that bark do not bite," which is excellent French, but rather startling German and English. Thus most of the blunders in the exercises criticised by me, may be easily accounted for: they are *Gallicized* German, purloined from friend Ploetz, and ignorantly offered as *model* German. But, you will ask, How is that possible? How can exercises calculated to drill the *German* student in the rules of *French* grammar, be made available for the *American* student learning *German* grammar? I answer to this with

¹ Elementarbuch der Französischen Sprache, von Dr. Carl Ploetz: Berlin, 1866.—Schulgrammatik der Französischen Sprache, von Dr. Carl Ploetz: Berlin, 1867.

Cicero: *Charta non erubescit*. The fact is undeniable. Open where you will in Ploetz's book, and if familiar with Worman's "original exercises," you will meet everywhere old acquaintances. Thus, for instance, Exercise XXX (p. 254, in Worman's book) contains twelve sentences, occupying seventeen lines. *Nine* of these sentences, filling fifteen lines, I find *literally* in Ploetz (pp. 129, 136, 137, 139, 145, 151, 155, 161, 168). Only three short sentences, occupying no more than two lines, I failed to find; and these, I doubt not, may be detected somewhere in Ploetz. Worman appears to have seized upon Ploetz's exercises as he would on a pack of cards, and distributed them (as I said in my first article) at random over his book. He likewise took the trouble to *translate* his *English* exercises bodily from Ploetz's *German* ones; but, strange to say, he did not touch, so far as I can discover, a single one of Ploetz's *French* exercises. Perhaps he found the translation of *these* too troublesome; or may be he saved them for future use.

The conclusions which must be drawn from these facts are so evident that I need not mention them. Since Mr. Worman, in his "reply," accepts as true my erroneous opinion concerning the originality of his exercises, he will understand without difficulty that he has placed himself in no enviable position. This is certainly not relieved by the fact that he acknowledged, in three special remarks, his indebtedness to Woodbury for *three* sentences, while he was unscrupulously plundering Ploetz of as many thousand, without even so much as mentioning his name in general terms in the preface. The light which this whole transaction throws upon the method which Mr. Worman followed in manufacturing his book, and upon the nature of his abilities, is so rich, that you, MR. EDITOR, will at once acknowledge the mistake alluded to in the beginning of this letter, and understand, without trouble, why this clever personage is conducting his correspondence in *English* even with Germans.

I cannot refrain from imparting here the name of the gentleman who involuntarily helped me to this interesting discovery. It was no other than Mr. Worman himself; who, in his "reply," used the name of Ploetz to justify the horrible German construction of one of his "classical" reading pieces. Being anxious to know how in the world any German author could have written in so barbarous a style, I took the trouble to look up Ploetz's (French) Grammar. Here I found among innumerable well-known "original" sentences of Worman, the very piece I had criticised; not given, however, as model German, but as German intentionally twisted into the *French idiom*, to facilitate its translation into French! Such is the stuff that Mr. Worman places before American students as classical German. To betray the name of the *author* of his purloined exercises was, under the circumstances,—to say the least,—rather incautious.

I am much obliged to you for sending me Messrs. Barnes's second circular. Of course you will not expect any reply from me;—nor, I presume, will my "personal friend," Dr. von Holst, whom I had not the honor of knowing, even by name, when—according to Messrs. Barnes's account—he "succeeded in persuading *his* friends of the *Nation* to join in the conspiracy against the book."

Yours, etc., G. FISCHER.

EDUCATIONAL INTELLIGENCE.

NEW YORK.—The annual report of the State Superintendent of Public Instruction for 1868, a document marked by rare good sense and freedom from cant, sets forth, so far as general statistics can, the results of the first year's operation of our reformed school system. These results, we are glad to see, are such as were anticipated by the friends of the change which made the schools of the State practically, what they had before been only in name—that is, *common* and *free*. In the words of the report, “The cause of public instruction, during the last fiscal year, has wrought results unequalled in all the past; and which, if they correctly denote a corresponding growth in the popular estimate of the value and advantages of our public schools, mark a new and more auspicious era in the development of the educational system of the State.” The improvements are manifested chiefly in lengthened terms of school, in larger and more uniform attendance, and in more liberal expenditures for school buildings and appliances. And that all these are really due to the change in the system, is evident from the fact that they obtain chiefly in the rural districts, where the impediment of rate-bills had been most severely felt. For example, in the cities, where are found nearly half the school children of the State, but where the schools were, for the most part, already free, the increase in the average daily attendance was only 1,254; while in the rural districts the increase was 24,657. That is to say, the abolition of rate-bills immediately opened the school doors to at least 20,000 children who otherwise would have been shut out. And still more: the schools were maintained on an average over two weeks longer than ever before.

The number of persons in the State, over five and under twenty-one years of age, is given as 1,464,669; of whom 970,842 are reported as having attended public school during some part of the year. These numbers, however, must be taken with considerable allowance. In the larger cities the school population is *estimated*; and as the apportionment of school money is made on the number of children of school age in each district, the temptation is to over, rather than under estimate. The reported school enrolment is also likely to be largely in excess of the truth, inasmuch as it includes transfers and repeaters. The reported average daily attendance, 445,868, is more likely to come near the truth. This, as has already been said, is considerably larger than ever before, though considerably short of what it should be. The aggregate school attendance of the State during the year was 83,397,250 days, which is equivalent to about one quarter's schooling for the entire actual school population. The schools were kept open an average period of 42 weeks 1 day in the cities, and 32 weeks 4 days in the country. The number of common-school teachers employed was 27,783, of whom 16,596 are reported as having been “employed at the same time for twenty-eight weeks or more.” Of these teachers, 384 were licensed by Normal schools, 1,000 by the Supt. of Pub. Instruction, and 26,399 by local officers. The average annual salary paid to city teachers was \$641.47; to teachers of country and village schools, \$240.75; the total expenditure for teachers' wages being \$5,597,506.94, an increase for the year of \$771,035. The

expenditures for school-buildings, sites, repairs, etc., reached the sum of \$2,184,065, a large excess over that of any preceding year. The reported value of school-houses and sites was \$16,459,485, the average value of school-houses, etc., in the cities, being \$28,656; and in the rural districts \$600. The entire expense of maintaining the common-schools during the year was \$9,040,942, an advance of \$1,357,740 on the corresponding total for 1867. In addition to the pupils enrolled in the common-schools, 119,774 are reported as having attended private schools, 32,735 academies, and 2,499 the colleges of the State; making the entire school-going population of New York,—or rather, the whole number of persons reported as having received scholastic instruction during some part of the year,—1,125,850. The Superintendent speaks favorably of Union Schools, but opposes special legislation in regard to them. "With all deference," he says, "to the accommodating disposition of the Legislature in facilitating the organization of these schools, in my judgment the practice of special legislation, on school matters provided for by general laws, should be discontinued." The mismanagement of the district libraries is historically considered, but no means are suggested for preventing their threatened extinction. Sixty-one teachers' institutes, in fifty-six counties, were held during the year. The attendance of teachers was larger than ever before, amounting to more than 82 per cent. of the whole number of teachers employed in the district schools of the State, and more than 84 per cent. of all in the counties where institutes were held. Twenty-six Indian schools, having an average daily attendance of 516, were taught for an average period of 32 weeks. There appears to be growing among the Indians a disposition to improve the school advantages afforded them by the State. The Superintendent devotes considerable space to Normal schools and to Normal-school legislation. Four of the eight Normal schools established by the State were in full operation when the report was made, and preparations for opening the others were rapidly approaching completion. The school at Albany had 375 students,—a larger number than at any former time. In this and in other respects, the Superintendent believes that "this school maintains the high standard of excellence, which has advanced it from the condition of an experiment, to become the prototype of seven others." The Oswego school "fully maintains the excellent reputation it has so rapidly acquired and so deservedly enjoys." The number in attendance was 385. At Brockport, "a good beginning has been made; and there is reason to believe that in due time this school may rival in excellence those now more fully developed." Of the Fredonia school, the Superintendent remarks: "The management of this school renders it a fitter subject for reformation than for commendation;" but he enters into no particulars, perhaps because the particulars are too notorious and disgraceful to be repeated. It is a shame that a school so generously provided for materially, should have its usefulness destroyed by the unseemly selfishness of a set of sectarians who aspire to control it for denominational ends. As a State institution, the school ought to be out of the reach of church interference. The number of pupils in the Normal departments of these schools was 1,009; in all their departments, 2,293. In the teachers' classes in academies there were 1,489, all of whom had signed a declaration of their intention to make teaching their occupation. The Superintendent recommends a thorough revision of the Normal School Acts

by the Legislature ;—the statutes relating to the organization, management, and support of these schools being altogether too general in their provisions, and too indefinite or deficient in many essential particulars. In the matter of supervision, the Superintendent's remarks are straightforward and decidedly sensible. If he can put a stop to what he so finely describes—the “trafficking, jobbing, speculating circumspection, slyly seeking a public position to subserve commercial enterprises,” that so often passes for school supervision—he will do immense service to the State. Of some of the sub-reports from city superintendents we shall take occasion to speak in another issue.

THE twenty-fifth annual meeting of the NEW YORK TEACHERS' ASSOCIATION was held at Ithaca, July 27th, 28th, and 29th. The exercises of the opening session, the afternoon of the first day, consisted of an address of welcome by Rev. Dr. Strong, on behalf of the citizens of the place ; a similar address by Hon. Ezra Cornell, in response to whose invitation the Association was convened at Ithaca ; and President Reed's inaugural. Speaking of the plan and working of Cornell University, especially in regard to appointments to State scholarship, Mr. Cornell announced that no distinction of sex is made in the organic law of the University, and that any ladies, duly qualified, who should present themselves for admission, would be received : an announcement that was received with much applause. In the evening, T. W. Valentine, of Brooklyn, read a paper on “Duty and Interest,” in which he denounced, as did Prest. Reed in his inaugural, the action of our late Legislature in granting appropriations to sectarian schools. J. W. Barker, of Buffalo, next read a paper on Teachers' Institutes, in which he reviewed the rise and progress of teachers' meetings, considered the legitimate work of these professional schools for the great body of teachers unreached by Normal schools, and appealed to teachers to exercise greater care and vigilance in conducting them. The next morning, resolutions were adopted deploring the death of Hon. Charles R. Coburn, late School Supt. of Pennsylvania, and paying a high tribute to his memory “as a sincere friend, an intelligent and hard-working practical educator, a thoroughly honest man, and an earnest and consistent Christian.” A Report was then read by D. J. Pratt, of Albany, “On the Study of History in Common Schools.” This was followed by D. H. Cruttenden's inevitable discourse “On Language,” which Mr. Cruttenden, with sublime persistence, has inflicted on about every convention of teachers ever held in the State,—with occasional excursions into adjacent States. Then Dr. Lambert trotted out *his* hobby, as familiar to convention-going teachers as Dan Rice's ponies are to circus-going boys. Year after year, with charming *naïveté*, he assures assembled teachers that “ten years ago” he was laughed at for expressing “new ideas”—in regard to the advantages of weekly bathing, and so forth—happily unconscious that he is laughed at all the time. His personal equation in the matter of ridicule, indeed, appears to be just ten years. Is it possible that, with so much devotion to “brain-producing food,” his brain-action is always a decade behind? We should like to know how it fared with his “ancestors” in this respect: and—to use his pet phrases—what bearing such “surface indications” of constitutional peculiarity are likely to have on his “probable longevity.”

In the afternoon, Supt. Bulkley, on behalf of the committee of ex-

presidents, reported in favor of celebrating, next year, at Syracuse (where, twenty-five years ago, the Association was organized), the first quarter-centennial of the Association : which report was adopted. B. Waterhouse Hawkins, the well-known artist-naturalist, then delivered, with his unrivalled crayon illustrations, an address "On the Unity of Design in the work of Creation." No better person could have been chosen to show the teachers of the State the wonderful effect of happy graphic illustration in conveying instruction. It is to be hoped that the teachers will imitate, to the best of their ability, the lecturer's most efficient use of the blackboard, and that the resolution adopted the following day, recommending Teachers' Associations to avail themselves of Mr. Hawkins's instruction, on all possible occasions, will be generally acted on. J. J. Edwards, M. D., of the city, next read a paper on the origin and relations to each other of the types and characters used in writing and printing. In the evening the Association was favored with Professor Sprague's lecture on Milton as an Educator, the most eloquent and scholarly address delivered before the Convention.

Thursday morning, the third and last day, committee-reports were read "On Improved Methods in Education," by S. G. Williams, of Ithaca : "On Women as School Officers," by James Johonnot ; and "On the Quarter-Centennial Anniversary," by J. W. Bulkley ; and addresses by Prof. Barlow, of Amherst College, "On The Passions and Emotions in Reading ;" by Prof. Allen, "On Chartography ;" and by Calvin Townsend, Esq., "On Civil Government." In the afternoon, the following officers were elected for the next year : *President*, S. D. Barr, of Rochester ;—*Vice-Presidents*, Mrs. A. T. Randall, Oswego ; S. G. Love, Jamestown ; M. McVicar, Potsdam ; A. G. Merwin, Brooklyn ;—*Secretaries*, H. R. Sanford, Penn Yan ; J. G. Fox, Brooklyn ;—*Cor. Sec.*, G. L. Farnham, Binghamton ;—*Treasurer*, D. J. Pratt, Albany. Delegates were appointed to attend a Teachers' Association at Toronto ; and a committee, to revise the Constitution and By-Laws of the Association, to report at the next annual meeting, which is to be held at Syracuse, the last Monday, Tuesday, Wednesday, and Thursday of July, 1870. Mr. T. L. Griswold, of Forrestville, read a paper on Methods in Education, which was followed by a resolution expressing the Association's disapproval of the action of the last Legislature in granting funds to sectarian schools, and considerable discussion thereon. The evening session was devoted chiefly to readings, singing, thanksgiving resolutions, mutual admiration, and other social exercises. Altogether the meeting was quite a satisfactory one. The attendance was large, the entertainment of the teachers by the town's-people was liberal, and everything passed off with very little jarring.

A meeting of the STATE ASSOCIATION OF SCHOOL SUPERINTENDENTS AND COMMISSIONERS was held at Ithaca in connection with the foregoing. Lack of space prevents our giving a report of its proceedings in this issue. For the same reason we are obliged to hold over, with much other matter, our reports of the proceedings of the AMERICAN PHILOLOGICAL ASSOCIATION, at Poughkeepsie ; the UNIVERSITY CONVOCATION, at Albany ; the AMERICAN INSTITUTE OF INSTRUCTION, at Portsmouth, N. H., and other meetings of interest. The National Conventions, at Trenton, are in session as we go to press. We hope to give a full report of their proceedings next month.

CURRENT PUBLICATIONS.

DR. HAVEN'S Rhetoric¹ is externally one of the most attractive text-books we have lately seen. The reader takes it up with the expectation of finding that the author has, of course, done his part of the work as well as the publishers have theirs. But he forthwith begins to be surprised at certain things he finds. His surprise soon passes into a conviction that the Doctor has written the work in a hurry; and before he gets through, he is forced into the belief that the book is substantially a failure.

We cheerfully admit that the book contains many good points; but its excellencies are not sufficiently numerous or weighty to save it. As a text-book professedly teaching "the art of expressing thought and feeling by language *in the best possible manner*," it ought not, by example any more than by precept, to falsify its character. And yet it abounds with examples of slovenly composition, and teaches the unwary some most execrable modes of expressing thought. We give a few specimens:—

(1.) Grammatical errors. "New terms must be introduced *so* often as any new object or law is discovered;" p. 63. "LET is no longer needed in the sense of HINDER, *as* [for "*in which*"] it was once employed;" p. 64. "No language *more abounds* in ambiguities [for "*abounds with ambiguities more*"] than the English. Indeed, it may be doubted whether *any* ambiguity can be found in *any* language that may not be translated into English. Certainly *it* might be imitated and paralleled in our language. For this reason great *care* should be taken to avoid *it*, but even after the utmost *care it* ["any ambiguity"] will sometimes occur;" p. 68. "I say that *you*, O *thou* son of Eacus!" etc.; p. 69. "That beautiful poem of *Bryant*, *Thanatopsis*, should be read aloud," etc.; p. 219.

(2.) Inelegancies. "Let a young writer remember that the *profuse use* of hackneyed foreign terms, *usually* found in a list, etc., etc., is not so much an indication of scholarship as *either of* carelessness or pedantry;" p. 60. "Circumstances arise, which demand *either an old term used in a new signification or a new term*;" p. 52. "It is often assumed that *Americans* use many provincialisms, which have been called '*Americanisms*,' though, in fact, *no people use so few*. (!!) Many of the inaccuracies that have been styled Americanisms have been imported, but have *here* obtained larger currency than at home, and are *here* oftener seen in print. There *are* of course some peculiar expressions, *and always must be*, of native origin;" p. 67. The following presents a case of a word too many or a word too few; we cannot say which. "Some of the most elegant writers in the language err in this respect, *arising* from the fact, undoubtedly, that their productions were intended to be read;" p. 224.

(3.) Tautology is thus encouraged: "It is a profitable exercise to *scrutinize* words *closely*;" p. 51. "We may say '*a slow velocity*;' " p. 50. "It sometimes arises from a want of thought, leading the author to *repeat over and over again* the little modicum of sense," etc.; p. 56. "Antithesis is the *collocation* of two objects *together*, that differ distinctly,"

¹ Rhetoric: A Text-Book, designed for use in Schools and Colleges, and for Study. By Rev. E. O. Haven, D.D., LL.D. New York: Harper & Brothers, 1860. 12mo, pp. 381.

etc. ; p. 113. Observe, too, the beauty of saying the collocation of "two objects." This reminds us of other definitions of the Doctor's. He has a wonderful faculty of teaching others how to do this part of composition-writing. Examples :—"Tropes are single words, used figuratively or not, in their literal meaning ;" p. 78. It may be said, that this is only a printer's error. Still, it shows great carelessness. It would have been sufficient if, after having explained the meaning of figurative language, he had simply said, "Tropes are single words used figuratively." Sometimes it is not best to give a definition, but to talk about a thing, and then intimate what you are talking about. The following are illustrations of this : "*Provincialisms.*—Provincialisms *should be avoided*, or sparingly and discriminately employed. Some words are used in confined localities, and are *unknown* elsewhere. If they are substituted for *other well-known* (!) words in the language, they *should be discarded* ;" p. 66. *Ambiguous Expressions.*—Ambiguous words *should be avoided*. Words capable of having two or more meanings, or so employed as to admit of diverse interpretations, *should never be used*," etc. ; p. 68. On p. 95, the author says, "An Allusion is *an implied comparison* ;" and on p. 102, "A Metaphor is *an implied comparison*." That is, an allusion is a metaphor, and a metaphor is an allusion ! The only seeming difference is, that an allusion is more important than a metaphor,—the word *comparison*, in the definition of the former, being made to commence with a capital C.

To teach pupils how to write intelligently and truthfully, he says, p. 49, "Words *having precisely the same signification* are called synonymous words ;" and on p. 123, "It is contrary to the genius of the English language to have two words *meaning precisely the same thing*." Under the subject of "Elocution," p. 351, he has a section headed, "How to make a production *impressive*," that is, one would suppose, *in its delivery*. But, strange to say, there is not a word in all the fourteen lines of this section that has reference to delivery. All that is offered there relates to the work of printing, publishing, and binding books.

We close with offering a few miscellaneous tid-bits. On p. 306, our witty friend, John G. Saxe, is called "Alfred Saxe." On p. 77, the author says, "The *head* [instead of "heading"] of this chapter is 'Tropes.'" This, he tells us, is "a figurative meaning" of the word. No doubt ; and he might have added, "Rare and unauthorized." On p. 137, he has a few words about a figure which he calls "Liptotes." On p. 199, we read, "A simple sentence has *but one* subject, and one finite verb. Instances : 'Man is mortal.' 'To an American visiting Europe, the long *voyage he has* to make is an excellent preparative.'" These are the only "instances" he gives ; one of which is not an instance, since it does not conform to his description.

From these samples the reader may judge somewhat of the slipshod, slovenly manner in which the author has executed his part of the work. We lay the book down, regretting that it adds nothing worth commending to a class of text-books that call loudly for improvement.

Harper & Brothers : THE PICTORIAL FIELD-BOOK OF THE WAR OF 1812. By BENSON J. LOSSING, author of "The Pictorial Field-Book of the Revolution." With 882 Illustrations, engraved on Wood by Lossing and Barritt, chiefly from Original Sketches by the author. 1084 pages, large 8vo. Cloth, \$7.—A PARSER AND ANALYZER FOR BEGINNERS, with Diagrams and Suggestive Pictures. By FRANCIS A. MARCH. 16mo. Flexible cloth, 40 cts.—THE TEACHER, THE PUPIL, THE SCHOOL. By NATHANIEL SANDS. 8vo. Cloth, \$1.

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PRACTICAL HINTS TO KINDERGARTNERS.

THE ESTABLISHMENT OF A KINDERGARTEN.

AN association of families, having children of the Kindergarten age (*i. e.* under seven years), should be the first step, after it has been definitely ascertained that such an enterprise is desirable and advisable.

One of Froebel's first conditions in regard to the establishment of a Kindergarten, and one on which in conversation he used to dwell long, and express himself with unmistakable decision, was, that it should not be made a matter of pecuniary speculation on the part of any individual. Families should combine for the purpose of having their own, or other people's children, trained by properly instructed persons, under the supervision of an experienced educator, who from love of his vocation, not from the desire of making money beyond a fair remuneration for his services, should devote his time, energies, and life to those intrusted to his care, loving them as his own children, and finding his highest reward in their rational development in mind and body. A director of one of Froebel's institutions must be a true disciple of his master;—he must be devoted to the cause, as Froebel himself was devoted to it,—nay, he must consent, if need be, to suffer for the good of mankind, as his great prototype showed himself willing to do during his whole earthly career.

The requisites for the establishment of a Kindergarten are :

1. A house, containing at least one large room, spacious enough to allow the children not only to engage in all their occupations, both sitting and standing, but also to practise their movement-plays, which, during inclement seasons, must be done in-doors.

2. Adjoining the large room, one or two smaller rooms for sundry purposes.

3. A number of tables, according to the size of the school ; each table affording a smooth surface ten feet long and four feet wide, resting on movable frames from eighteen to twenty-four inches high. The table should be divided into ten equal squares to accommodate as many pupils ; and each square subdivided into small squares of one inch, to guide the children in many of their occupations. On either side of the tables should be settees with folding seats, or small chairs, ten to fifteen inches high. The tables and settees should not be fastened to the floor, as they will need to be removed at times to make room for occupations in which they are not used.

4. A piano-forte for gymnastic and musical exercises,—the latter being an important feature of the plan, since all the occupations are interspersed with, and many of them accompanied by, singing.

5. Various closets for keeping the apparatus and work of the children, a wardrobe, washstand, chairs, teacher's table, etc.

The house should be pleasantly located, removed from the bustle of a thoroughfare, and its rooms arranged with strict regard to hygienic principles. A garden should surround, or at least adjoin the building, for frequent out-door exercises, and for gardening purposes. A small plot should be assigned to each of the children, in which they may severally sow the seeds and cultivate the plants, receiving in due time the flowers or fruit, as the result of their industry and care.

When a Training School is connected with the Kindergarten, the children of the "Garten" are divided into groups of five or ten, each group being assisted in its occupations by one of the lady pupils attending the Training School. Should there be a greater number of such assistants than can be conveniently occupied in the Kindergarten, they may take turns with each other. In a Training School of this kind, under the charge of a competent director, ladies are enabled to acquire a thorough and practical knowledge of the system. They should bind themselves, however, to remain connected with the institution a specified time, and follow out the details of the method patiently, if they aim to fit themselves to conduct a Kindergarten with success.

In any establishment of more than twenty children, a nurse should be in constant attendance. It is her duty also to preserve order and cleanliness in the rooms, and to act as janitrix to the institution.

MEANS AND WAYS OF OCCUPATION IN THE KINDERGARTEN.

Before entering into a description of the various means of occupation in the Kindergarten, it will be proper to state that Friedrich Froebel, the inventor of this system of education, calls *all occupations* in the Kindergarten "*plays*," and the *materials* for occupation, "*gifts*." In these

systematically arranged "plays," Froebel started from the fundamental idea that all education should begin with a development of the desire for activity, innate in the child; and he was, as is universally acknowledged, eminently successful in this part of his important work. Each step in the course of training is a logical sequence of the preceding one, and the various means of occupation are developed one from another in a perfectly natural order, beginning with the simplest and concluding with the most difficult features in all the varieties of occupation. Together, they satisfy all the demands of the child's nature in respect both to mental and physical culture, and lay the surest foundation for subsequent education in school and in life.

The time of occupation in the Kindergarten is three or four hours on each week-day, usually from 9 to 12 or 1 o'clock; and the time allotted to each separate occupation, including the changes from one to another, is from twenty to thirty minutes. *Movement* plays, so called, in which the children imitate the flying of birds, swimming of fish, the motions of sowing, mowing, threshing, etc., in connection with light gymnastics and vocal exercises, alternate with the plays performed in a sitting posture. All occupations that can be engaged in out of doors, are carried on in the garden whenever the season and weather permit.

For the reason that the various occupations, as previously stated, are so intimately connected, growing as it were out of each other, they are introduced very gradually, so as to afford each child ample time to become sufficiently prepared for the next step,—without interfering, however, with the rapid progress of such as are of a more advanced age, or endowed with stronger or better developed faculties.

The following is a list of the *gifts*, or material and means of occupation in the Kindergarten, each of which will be specified and described separately hereafter. There are, altogether, twenty *gifts*, according to Froebel's general definition of the term, although the first six only are usually designated by this name. We choose to follow the classification and nomenclature of the inventor of the system.

LIST OF FROEBEL'S GIFTS.

- 1st Gift. 6 rubber balls, covered with a network of twine or worsted, of various colors.
- 2d " Sphere, cube, and cylinders, made of wood.
- 3d " Large cube, consisting of 8 small cubes.
- 4th " Large cube, consisting of 8 oblong parts.
- 5th " Large cube, consisting of 27 variously shaped parts.
- 6th " Large cube, consisting of doubly divided oblongs.

[The last 4 gifts serve for building purposes.]

- 7th Gift. Square and triangular tablets, for laying off figures.
- 8th " Staffs, for laying off figures.
- 9th " Whole and half rings, for laying off figures.
- 10th " Material for drawing.
- 11th " Material for perforating.
- 12th " Material for embroidering.
- 13th " Material for cutting of paper, and combining pieces.
- 14th " Material for braiding.
- 15th " Slats for interlacing.
- 16th " The slat with many links.
- 17th " Lacing with undivided paper strips.
- 18th " Material for paper-folding.
- 19th " Material for peas-work.
- 20th " Material for modelling.

FIRST GIFT.

The first gift, which consists of six rubber balls, overwrought with worsted for the purpose of representing the three fundamental and three mixed colors, is introduced in this manner.

The children are made to stand in one or two rows, with heads erect, and feet upon a given line, or on spots marked on the floor. The teacher then gives directions like the following :

"Lift up your *right* hands as high as you can raise them."

"Take them down."

"Lift up your *left* hands." "Down."

"Lift up *both* your hands." "Down."

"Stretch forward your *right* hands, that I may give each of you something that I have in my box."

The teacher then places in the hand of each child a ball, and asks :

"Who can tell me the name of what you have received?" Questions may follow about the *color*, *material*, *shape*, and other qualities of the ball, which will call forth the replies *blue*, *yellow*, *rubber*, *round*, *light*, *soft*, etc. The children are then required to repeat sentences pronounced by the teacher, as : "The *ball* is *round* ;" "My *ball* is *green* ;" "All these balls are made of rubber," etc.

They are then required to return all except the *blue* balls,—those who give up theirs being allowed to select from the box a *blue* ball in exchange, so that in the end each child has a ball of that color. The teacher then says :

"Each of you has now a *blue*, *rubber* ball, which is *round*, *soft*, and *light*, and these balls will be your balls to play with. I will give you another ball to-morrow, and the next day another, and so on until you

have quite a number of balls ; all of which will be of *rubber*, but no two of the same *color*."

The six differently colored balls are to be used, one on each day of the week, which assists the children in recollecting the names of the days, and the colors. After distributing the balls, the same questions may be asked as at the beginning, and the children taught to raise and drop their hands with the balls in them ; and if there is time, they may make a few attempts to throw and catch the balls. This is enough for the first lesson, and it will be sure to awaken enthusiasm and delight in the children.

The object of the first occupation is to teach the children to distinguish between the *right* hand and the *left*, and to name the various colors. It may serve also to develop their vocal organs, and to instruct them in the rules of politeness. How the latter may be accomplished, even with such simple occupation as playing with balls, may be seen from the following. In presenting the balls, pains should be taken to make each child extend the *right* hand, and do it gracefully. The teacher, in putting the ball into the little hand outstretched to receive it, says :

"Charles, I place this red (green, yellow) ball into your right hand." The child is taught to reply :

"I thank you, sir."

After the play is over, and the balls are to be replaced, each one says in returning his ball :

"I place this red (green, yellow) ball with my right hand into the box."

When the children have acquired some knowledge of the different colors, they may be asked at the commencement :

"Which ball would you like to play with this morning?—the green, red, or blue one?" The child will reply :

"With the *blue* one, if you please," or one of such other color as may be preferred.

It may appear rather monotonous to some, to have each child repeat the same phrase, but it is only by constant repetition and patient drill that anything can be learned accurately, and it is certainly important that these youthful minds in their formative state should be taught at once the beauty of order and the necessity of rules. So the left hand should never be employed when the right hand is required, and all mistakes should be carefully noticed and corrected by the teacher. One important feature of this system is the inculcation of habits of precision.

The children's knowledge of color may be improved by asking them what other things are similar to the different balls in respect to color. After naming several objects, they may be made to repeat sentences like the following :

“My ball is green, like a leaf.” “My ball is yellow, like a lemon.”
“And mine is red, like blood,” etc.

Whatever is pronounced in these conversational lessons should be articulated very distinctly and accurately, so as to develop the organs of speech, and to correct any defect of utterance, whether constitutional or the result of neglect. Opportunities for phonetic and elocutionary practice are here afforded. Let no one consider the infant period as too early for such exercises. If children learn to speak well before they learn to read, they seldom need much special instruction in the art of reading with expression.

For a second play with the balls, the class forms a circle after the children have received the balls in the usual manner. They need to stand far enough apart so that each with arms extended can just touch his neighbor's hand. Standing in this position, and having the balls in their right hands, the children pass them into the left hands of their neighbors. In this way, each one gives and receives a ball at the same time, and the left hands should, therefore, be held in such a manner that the balls can be readily placed in them. The arms are then raised over the head, and the balls passed from the left into the right hand, and the arms again extended to the first position. This process is repeated until the balls make the complete circuit and return into the right hands of the original owners. The balls are then passed to the left in the same way, everything being done in an opposite direction. This exercise should be continued until it can be done rapidly, and at the same time gracefully.

Simple as this performance may appear to those who have not tried it, it is, nevertheless, not easily done by very young children without frequent mistakes and interruptions. It is better that the children should not turn their heads so as to watch their hands during the changes, but be guided solely by the sense of touch; and to accomplish this with more certainty, they may be required to close their eyes. It is advisable not to introduce this play or any of the following, until expertness is acquired in the first and simpler form.

In the third play, the children form in two rows fronting each other. Only the children of one row receive balls. These they toss to the opposite row, first one by one, then two by two, finally the whole row at once, always to the counting of the teacher—“one, two, *throw*.”

Again, forming four rows, the children in the first row toss up and catch; then throw to the second row, then to the third, then to the fourth, accompanying the exercise with counting as before, or with *singing*, as soon as this can be done.

For a further variety, the balls are thrown upon the floor, and caught as they rebound, with the right hand or the left hand, or with the hand inverted, or they may be sent back several times before catching. Throw-

ing the balls against the wall, tossing them into the air, and many other exercises, may be introduced whenever the balls are used, and will always serve to interest the children. Care should be taken to have every movement performed in perfect order, and that every child takes part in all the exercises in turn.

At the close of every ball-play, the children occupy their original places marked on the floor, the balls are collected by one or two of the older pupils, and after this has been done, each child grasps the hand of its opposite, and bowing, says, "Good-morning;" when they march by twos, accompanied by music, once or twice through the hall, and then to their seats for other occupation.

OUR POPULAR SCHOOL BOOKS.

III.—ENGLISH GRAMMARS.

WE do not profess in these papers to examine every work, or even a tithe of the works on the particular subject under consideration. Our aim is, as our title implies, to discuss the comparative merits of those text-books that are more generally used in schools. Occasionally a valuable work, that may not be very widely known, may be examined with the rest, so that those who have not the means or the time carefully to compare different text-books, may have such facts placed before them as shall enable them to form something like a just estimate of the relative worth of these treatises. With this end in view, we have selected certain grammars designed for the more advanced classes of students. Our list,¹ we believe, includes the best English Grammars

¹ Gould Brown's Institutes of Eng. Gram.; pp. 343. New York: Wm. Wood & Co.
P. Bullions' Principles of Eng. Gram.; pp. 225. New York: Sheldon & Co.
S. W. Clark's Practical Gram.; pp. 309. New York: A. S. Barnes & Co.
W. C. Fowler's Eng. Lang. in its Elements, etc.; pp. 381. N. Y.: Harper & Brothers.
S. S. Greene's Gram. of the Eng. Lang.; pp. 323. Phila.: Cowperthwait & Co.
J. S. Hart's Gram. of the Eng. Lang.; pp. 199. Phila.: E. H. Butler & Co.
S. Kerl's Com. Sch. Gram.; pp. 350. New York: Ivison, Phinney, Blakeman & Co.
S. Kirkham's Eng. Gram.; pp. 228. New York: Collins & Brother.
J. Mulligan's Gram. Struc. of the Eng. Lang.; pp. 574. N. York: D. Appleton & Co.
W. H. Parker's Gram. of the Eng. Lang.; pp. 384. Phila.: Eldredge & Brother.
T. S. Pinneo's Analyt. Gram. of the Eng. Lang.; pp. 214. Cin.: Wilson, Hinkle & Co.
G. P. Quackenbos's Eng. Gram.; pp. 288. New York: D. Appleton & Co.
W. H. Wells' Gram. of the Eng. Lang.; pp. 220. New York: Ivison, Phinney, Blakeman & Co.

now before the American public. Our examination of each must necessarily be brief. But with brevity we mean to combine justice, and give as clear and correct an idea as we can of the character and comparative value of each as a grammar.

In range, these books vary not a little,—more, in fact, than any other class of text-books. Those that are confined most closely to the treatment of grammar, properly so called, are Bullions', Hart's, Mulligan's, and Quackenbos's. Of Clark's, Kirkham's, Parker's, Pinneo's, and Wells' books, at least one-fourth is irrelevant to the subject; nearly one-third of Brown's, Greene's, and Kerl's; and more than half of Fowler's. The last, for example, gives 31 pages to the historical, 27 to the phonetic, and 22 to the orthographical elements of the language; 42 to derivation, 32 to rhetoric, 24 to poetical numbers, and 13 to punctuation,—making altogether 191 pages! Besides this, even under the heads of etymology and syntax there is a great deal of superfluous matter, such as alternative definitions (pp. 84, 85, etc.), alternative classifications (pp. 85, 100, etc.), notes on Comparative Etymology (pp. 96, 108, etc.), exercises foreign to the subject (pp. 304, 305, etc.), and uncalled-for remarks without number (pp. 90, 91, 172–174, etc.), swelling the book to nearly or quite three times the size it ought to be to teach all the grammar it professes to teach. The same fault of impertinent or needless matter is found to a certain extent in nearly every English grammar, though not generally so largely as in this book. It is true, it does not necessarily follow that the best text-book is that which confines itself most closely to the subject in hand. On the contrary, it may be the very worst. Still, it is a matter of prime importance that a text-book be so prepared that the subject concerning which it treats be not continually set aside by the introduction of something foreign and irrelevant. What would be thought of an Arithmetic, for example, lumbered up with pages of matter belonging to algebra, geometry, trigonometry, and conic sections? Yet our English Grammars are, for the most part, compiled on this principle,—presenting a sort of *omnium gatherum* concerning the English language. The least objectionable, that we know of, on this score, are Mulligan's and Bullions'. Apart from the 47 pages given by the former to orthoepy, punctuation, and versification, and the 45 pages devoted by the latter to orthography, punctuation, the use of capitals, prosody, and composition,—subjects deserving of attention, but not properly belonging to a grammar,—these authors confine themselves strictly to their professed subject. It is due, however, to Mulligan to state that he regards his remarks on orthoepy as a digression, while he treats of the other two subjects in an appendix. Of all writers of grammars, he alone seems to have a true idea of the legitimate province of his work. Next to him, in our judgment, is Bullions, who has embodied his ideas, if they can be

called his, in a generally plain and practical manner. A similar remark may be made respecting Hart. He gives about 6 pages to orthography, 5 to derivation, and 31 to prosody. Otherwise the volume is strictly an English Grammar. The remaining authors depart more or less widely from their legitimate work.

But as each book has a system of its own, let us look at the fundamental idea on which it is based. This will give us the most correct conception of its character and value as a grammar.

If Gould Brown's conception of the province of grammar had not been so broad, his Institutes would probably have been, in the main, as near to what a grammar should be as we have reason to expect. His design was to make a treatise that should "embrace in a short compass a complete course of English Grammar, *disencumbered of everything not calculated to convey direct information on the subject.*" This idea he has strictly conformed to with reference to what he conceived to be grammar. His error lies principally in making English grammar embrace whatever is needful to the "art of speaking, *reading*, and *writing* the English language correctly." Hence, orthoepy, utterance, orthography, punctuation, and composition to a certain extent, necessarily belong to his system. The system of analysis which appears in the late editions is not Brown's; nor do we regard its introduction, and the consequent displacement of much of Brown's material in order to make room for it, any improvement on the original work, the homogeneity of which is more or less impaired thereby. But, passing by these points and looking at *Brown* in his Etymology and Syntax, which embrace, properly speaking, all the "grammar" of the work, we find he plays the part, not of a mere book-maker, nor of a theorist, but of an experienced, practical teacher. His arrangement and classifications are generally natural and systematic. He not only gives definitions and rules to be learned; but, what is of equal if not greater importance, he follows them with full and appropriate exercises from first to last, giving the learner something *to do*,—something to fix those definitions and rules, and to exercise his skill in putting into practice the principles he has learned. Throughout the volume it is apparent that the author's main idea is to make the learner do as much as possible, while the work done shall pertain legitimately to the professed object of the book as an English grammar. This, taken in connection with the author's methodical arrangement, we regard as the secret of the success of his work as a practical text-book.

Bullions' Grammar differs but little, in the general idea and plan, from Brown's. It is, however, much briefer. The author's aim is to teach, illustrate, and enforce the general principles of the science as concisely as is consistent with clearness and profit. In certain minor points, the work admits of improvement; but, as a whole, it is a very practical text-book.

We wish we could say as much of the other volumes ; but we cannot. Clark's, for instance, in point of practicalness as a grammar, is not to be compared for a moment with Brown's, or even with Bullions'. In the first place, the book begins at the wrong end—with analysis—and consequently works backwards, or as nearly so as it can, all the way through. The author evidently holds, with certain theorizers, that "if grammar is that which teaches the right construction of language, then we should *commence* its study with *a construction*, and *not* with the study of *single words* ;"—*Mass. Teach.*, 1864, p. 318 ;—the absurdity of which lies in making the end sought the starting point ! The attempt to acquire a knowledge of grammar thus, especially when "aided" as here by diagrams, is about as natural as it would be to attempt to learn to spell without a knowledge of the names and powers of the letters. Diagramming, like any other species of puzzle, may do as an amusement to while away a winter's evening. But, as a means of learning grammar, it is very much like putting together the parts of a dissected map as a means of learning geography. Success in the performance of the latter depends on an acquaintance with maps and a knowledge of their outlines, etc. ; and, when the puzzle is put together, the one who has done the work knows no more about geography than before. Just so, success in diagramming is dependent upon a knowledge of grammatical principles ; and by diagramming one does not necessarily gain any grammatical knowledge. Hence we say that an attempt to teach grammar through analysis, and especially through diagrams, is beginning at the wrong end. The doctrine that this is the true mode of teaching grammar is a false one. It has already led to the false structure of too many text-books, having clogged them with matter which, neither pertaining to the subject nor aiding the learner in the acquisition of grammatical knowledge, may be far more advantageously taken up afterward. In the second place, Clark makes analysis, and analysis by means of diagrams, the leading feature, the one peculiarity which crops out almost everywhere, and makes one feel that, with the author, an ability to convert a sentence into a diagram is of higher importance than an ability to speak or to write grammatically. Indeed, the correction of false syntax, as a means of acquiring grammatical accuracy in speech and composition, is made a thing of comparatively minor importance. This fact, together with the misplacement of analysis, and the stress laid upon it in the way of diagramming, renders the work as a grammatical text-book far less practical than many others.

Fowler's aim seems to be to make as much as possible of the historical element. The consequence is, his work, properly speaking, is not an English grammar, but a treatise on historical and comparative etymology as applied to the English language in connection with an exposition of the grammatical principles of the language.

Greene does not commit Clark's blunder of introducing analysis prior to etymology, and as an aid to a knowledge of grammar. He, however, devotes to it the first 40 pages under the head of syntax. We think he would have done better had he left it wholly for his supplementary work, which treats of this subject in full. Besides this, the book has more parsing, and less correcting of faulty syntax, than is desirable and needed in a work of its size. The 23 pages on orthography and the 16 on punctuation may also be objected to as too few to be of practical value, and too numerous for a text-book on grammar. In addition to all this, there are a number of useless specifications, as on pp. 64, 69, 91, 92, 102, 103, etc. Such specifications, if correct and clearly expressed, may possibly do well enough to instruct foreigners; but, for English-speaking scholars, they can hardly be said to be worth the paper on which they are printed.

Hart's Grammar is free from most of the peculiarities that distinguish and deface many other grammars. It is characterized by its conservatism, and its general endeavor to avoid knotty questions. This, perhaps, makes the book less useful than it might otherwise have been; for, with all its good qualities, it lacks individuality and force. And yet, as a text-book, we should prefer it to at least two-thirds of the other books in the list we have given.

Kerl's book is a thing *sui generis*, whether we consider its method or its matter. Its chief peculiarity is its arrangement, which could scarcely be worse. It treats of etymology and syntax together, then subdivides the whole so as to separate subjects that ought to be united, and unites others that apparently have no connection. One obtains no just idea of the work from the synopsis. Part II., for example, treats professedly of "Words uncombined." One would naturally suppose, therefore, that it must treat of spelling, pronunciation, and etymology. But etymology, except as denoting a few general principles of "derivation," does not appear here. This is left for Part III., which professes to treat of "Words grammatically *combined*." Part V., of "Words improperly combined," is headed "Syntax." And yet very many of the improper combinations there given are not examples of faulty *syntax*, but faulty rhetoric or something else; while many that are given as improper are unexceptionable. Of the former we note such as "She is a poor widow woman;" "His two sisters were both of them well educated;" "I bought it of the bookseller, him who lives opposite." Of the latter class are such as, "A squirrel can climb a tree quicker than a boy;" "What kind of a man is he?"

Evidently, Kerl has labored to make this a superior text-book. But he has failed. There is an originality, a freshness about it, as there is about all his grammars, making it a suggestive and pleasant book to read; and in certain points, as in his treatment of the Subjunctive Mood,

for instance, Kerl is far in advance of the others. But, for all this, his book lacks the soul of a good text-book, viz., a supply of well-arranged and appropriate exercises, compelling the pupil at every step not merely to *see* something, but to *do* something,—not merely to perceive the truth of what he is taught, but to apply what he has learned and thereby fix it indelibly in mind for future use and guidance. The author loves to explain, but he does not require his readers to show that they understand him, or remember his instructions. To illustrate, turn to p. 71, which is properly the second page of his grammar. There we have the definition of a noun, followed very appropriately by illustrations. Then come the classes of nouns,—proper, common, etc., with definitions and illustrations; after which is given a list of twenty-two nouns, the pupil being required to say why each is a noun. He may say, parrot-like, “Because it is a noun;” but obviously the true though unuttered reason is, “Because it is given in the list; for it wouldn’t be there if it wasn’t a noun.” If Kerl would like to know a more practical mode, indeed the true mode, of impressing the lesson referred to upon the learner’s mind, let him turn to pp. 45 and 55 of Brown’s Institutes, where the pupil is required to determine for himself what words are nouns as well as to what classes they belong. We give the above as a single example of Kerl’s want of practicalness. But, had we room, we might fill pages with illustrations of a similar nature. This, we say, is the great defect of the book, for it continually shifts the work from the pupil to the author or the teacher, and leaves the former, for want of practice, grammatically feeble and inefficient. This, however, is not the only fault. The first 33 pages, which are but an abridgment of the first 55 pages of his “First Lessons,” are of too vague and indefinite a character to be of any practical value. They contain comparatively little for the learner to memorize, and next to nothing for him to do in the way of exercises. If he does anything, it is by the pumping process of questioning, which throws the burden of the labor on him who does the pumping. This mode of attempting to give instruction is extremely unsatisfactory, and sensible teachers avoid it. To pronunciation, orthography, and derivation—subjects which properly belong to reading-books and spelling-books—are given 35 pages. Then, there is other irrelevant or useless matter; as, for example, § 404 and its subdivisions, and §§ 455, 456, 457. But we cannot stop to specify. Any careful reader may note for himself much that is of this character.

THOUGHT is the essential prerequisite of true culture. The man who thinks most is the most cultivated. It is the culture of originality, of depth, of character. A man should be measured, not by the number of dates he can give, but by the number of thoughts he can originate.

COSMICAL REACTIONS.

BY PROF. GUSTAVUS HINRICHS.

THE progressive spirit of modern science is just now making great conquests in a field which but a few years ago was considered totally inaccessible to exact science. Instead of forever remaining a plaything to the fancy of metaphysical dreamers, the investigation of the material and constitution of the distant worlds now constitutes a highly important and rapidly progressing branch of experimental research. Based upon the great discovery of *Bunsen* and *Kirchhoff*, cosmical chemistry has already, in less than a decade, obtained very formidable proportions. It cannot, therefore, be expected, in a short notice like this, to give a clear view of the results obtained in this new branch of chemistry; but it may be interesting to mention a few of the most recent discoveries in this field, because they not only instruct us concerning the composition of the distant worlds, but even prove that chemical reactions are going on in the remotest parts of the universe, identical with those which we produce at pleasure in the laboratory. As in antiquity, astrology and alchemy were unitedly cultivated by the precursors of science, so again in our own day the science of the stars and the science of matter meet after a separation of several centuries, having in the meanwhile, by the exploration of different fields, cast off the fancies and dreams of youth and acquired the critical spirit and certain knowledge of stern manhood. Astronomy and Chemistry—separated by a deep gulf, deemed impassable but a few years ago—are now united in the same work with the same means, and secure wonderful results. In view of these results, the idea of *Unity in Nature* has passed still farther away from the domain of speculative philosophy, and become almost in every respect a positive fact. We knew already, before the discoveries in cosmical chemistry, that the same physical agencies of gravitation, heat, light, electricity, and magnetism, pervade the whole material universe; cosmical chemistry has now, in addition to this, established the uniformity of matter in the universe—and, accordingly, perfect Unity is established.

The recent discoveries, indicating cosmo-chemical reactions, are briefly as follows:

Since the great eclipse of 1868, *Jansen* has proved that the luminous atmosphere of the sun is surrounded by an envelope of hydrogen gas—the lightest of the known elements. In the solar photosphere the presence of sodium and magnesium has long been recognized. Now the thickness of the shell of hydrogen at the sun's surface varies exceedingly, both from place to place and in time. At times immense cloud-like

protuberances of hydrogen appear at different spots on the sun,—protuberances which formerly could be observed only during a total eclipse of the sun, but the true nature of which was discovered by means of the spectroscope during the last great eclipse above-mentioned. Since then, both *Jansen*, now in India, and Father *Secchi*, in Rome, have continued their observation of these protuberances through the spectroscope, and have ascertained their relation to the hydrogen-envelope of the luminous sun.

Quite recently Father *Secchi* has discovered a most remarkable flickering up of the variable star marked R in the Twins (Gemini). In the spectrum of this star, *Secchi* found the lines peculiar to hydrogen very bright; the lines of the metals sodium and magnesium were also brilliant. But in a few days all this splendor passed away; and instead of shining as a star of almost the 6th magnitude, it is now only of about the 10th magnitude. In his letter to the French Academy, of March 20, 1869, Father *Secchi* says in conclusion: "We have, accordingly, here witnessed a combustion of hydrogen and perhaps magnesium and sodium; that is to say, precisely those elements of this solar atmosphere which are the lightest (have the smallest atomic weights). It is remarkable that the decrease of intensity was so sudden."

He also refers to the similar case observed by *Huggins* and *Müller*, in 1866, on the so-called new star in the Northern Crown (Corona Borealis).

Hence the *fact* is established, that stars at times evolve great quantities of hydrogen gas in a state of incandescence, so as to make even very faint stars appear, for a short time, with considerable brilliancy. The combustion of the light, very oxydable metals, like sodium and magnesium, appears to be associated with the sudden evolution of hydrogen on the stars. Even our own star, the sun, locally and on a smaller scale, exhibits the same phenomenon in its protuberances.

On the luminous globes of the heavens, chemical reactions are going on, reactions of an extent of which we cannot form any adequate conception. The presence of hydrogen being a fact, hydrogen compounds must exist in the lower layers. Many of these compounds we know to be spontaneously decomposed upon coming in contact with metallic magnesium or sodium. The sudden evolution of incandescent hydrogen accordingly must be ascribed to the action of some hydrogen compound, like water or muriatic acid, on the above-named metals.

The grand phenomenon of a star suddenly becoming very brilliant for a short time is, accordingly, the same in kind as the common lecture-experiment of throwing a piece of sodium on water. The glory of the stars thus appears to be due to precisely the same forces and substances which the chemist uses in his experiments.

TECHNICAL EDUCATION IN EUROPE.

V.—BAVARIA.

THE royal decree for the reorganization of the system of Technical Education in Bavaria, dated May, 1864, provides for the establishment of a system of public schools designed to prepare pupils for industrial, commercial, and agricultural pursuits, and for the higher technical professions; these schools to serve as preparatory schools for certain special institutions (*Fachschulen*), which are not included in the present school organization.

The system includes the following classes of schools :

I. Industrial Schools, each provided, in accordance with local circumstances and requirements, with special subdivisions for instruction in commerce, agriculture, and other industrial pursuits.

II. Technical Gymnasiums (*real Gymnasiums*).¹

III. Polytechnic Schools, with special divisions for Architecture, Mechanical Engineering, Technical Chemistry, Trade and Commerce.

Special Schools, for instruction in veterinary science, forestry, and the higher branches of agricultural science, were already established when the decree was issued.

Industrial Schools.—These institutions, though called Trade Schools, are not specially intended to promote particular industries. The usual course of instruction which they afford is essentially of a general character, their object being to teach the common elements of education, and at the same time, by means of theoretical instruction in the rudiments of certain branches of art and science, to cultivate the understanding and taste of the pupils, so as to give them greater aptitude for pursuing intelligently such particular trades as they may adopt. They appear to have been called Trade Schools rather from the fact that they were instituted with the view of giving to the children of trades-people and mechanics such an education as seemed best calculated to meet the requirements of their social position, than because it was intended that trades or handicrafts of any description should be taught in them. These schools are not in all cases Government schools, many being supported in part by provincial or municipal authorities. They are all day schools, and intended for boys only.

¹ The term "real" is used in Germany in connection with education to designate that which is essentially of a positive and practical character. The technical gymnasiums are styled "real" in order to distinguish them from the other gymnasiums, the education at which is chiefly classical.

Each trade-school is divided into three classes. The course of instruction and the number of hours a week to be devoted to each subject, are laid down in the decree, as follows :

COURSE I.

Religion.....	weekly	2	hours.
German language	"	5	"
Geography.....	"	2	"
History	"	2	"
Arithmetic.....	"	5	"
Natural history	"	4	"
Drawing	"	8	"
French language	"	2	"
Together		30	"

COURSE II.

Religion.....	weekly	2	hours.
German language	"	4	"
Geography.....	"	2	"
History	"	2	"
Algebra	"	2	"
Plane geometry	"	4	"
Natural philosophy	"	4	"
Drawing and embossing ..	"	8	"
French language	"	2	"
Together.....		30	"

COURSE III.

Religion.....	weekly	2	hours.
German language	"	3	"
History	"	2	"
Algebra	"	3	"
Solid geometry and plane trigonometry	"	2	"
Descriptive geometry.....	"	2	"
Chemistry	"	4	"
Popular mechanics	"	4	"
Drawing and embossing ..	"	6	"
French language	"	2	"
Together.....		30	"

In the commercial division, the distribution of lessons is as follows :

COURSE I.

a. In common with the pupils of the industrial school :

Religion.....	weekly	2	hours.
German language	"	5	"
Geography	"	2	"
History.....	"	2	"
Arithmetic	"	5	"

b. For the commercial scholars separately :

French language	"	5	"
Calligraphy	"	5	"
In all.....		30	"

COURSE II.

a. In common with the scholars of the industrial school :

Religion.....	weekly	2	hours.
German language	"	4	"
Geography.....	"	2	"
History.....	"	2	"
Natural philosophy	"	4	"

b. For the commercial scholars separately :

Commercial arithmetic ...	"	5	"
The science of commerce.	"	6	"
French language	"	5	"
In all.....		30	"

COURSE III.

a. In common with the scholars of the industrial school :

Religion.....	weekly	2	hours.
German language	"	3	"
History	"	2	"
Chemistry	"	4	"

b. Separately :

Science of commerce.....	"	6	"
Commercial geography and history of commerce ...	"	3	"
French language	"	5	"
English language	"	5	"
In all.....		30	"

In the agricultural division the subjects of study are as follows :

COURSE I.

a. In common with the industrial scholars :

Religion.....	weekly	2	hours.
German language	"	5	"
Geography	"	2	"
History.....	"	2	"
Arithmetic.....	"	5	"
Natural history	"	4	"

b. Separately :

Agricultural science	"	6	"
Drawing	"	4	"
Agricultural practice.....	"	—	"
In all.....		30	"

COURSE II.				COURSE III.			
<i>a.</i> In common with the industrial scholars :				<i>a.</i> In common with the industrial scholars :			
Religion.....	weekly	2	hours.	Religion.....	weekly	2	hours.
German language	"	4	"	German language	"	3	"
Geography	"	2	"	History.....	"	2	"
History.....	"	2	"	Chemistry	"	4	"
Natural philosophy	"	4	"	<i>b.</i> Separately :			
<i>b.</i> Separately :				Agricultural sciences.....	"	8	"
Agricultural science.....	"	6	"	Geometry.....	"	3	"
Arithmetical exercises....	"	2	"	Drawing.....	"	2	"
Drawing.....	"	2	"	Agricultural practice.....	"	—	"
Agricultural practice.....	"	—	"	In all..... 24 "			
In all..... 24 "							

In regard to religious instruction, these schools fall under the regulations provided for all the public schools of Bavaria.¹

The appointment of directors and teachers at the trades schools rests with the local Government authorities in the case of schools established and supported by the State or provincial funds, and with the magistracy when the school is founded by the commune or corporation. In the latter case the appointments must be confirmed by the local government authorities ; but the teachers do not in any case become permanent Government employees, their appointment being only temporary.

In order to be qualified for the appointment of teacher, the candidate must pass an examination in the subject which he professes to be competent to teach, but this examination is not competitive. It is not an indispensable requirement for appointment as teacher to a trades school that the candidate should have gone through the regular course of study prescribed at any particular school or college.

According to the returns for 1863, the aggregate number of teachers employed at the twenty-nine trades schools was 343, the number at each school ranging from 6 to 23. The salaries of the teachers at these schools vary from 700 to 1,000 florins per annum.

The qualifications for admittance as a scholar to the first or lower class of the trades school are, that the candidate should have completed his twelfth year (the age at which the six years' attendance at the national schools ceases), and shall not have exceeded his fourteenth year ; and he must prove by means of a test examination that he possesses a proper knowledge of religion, that he is able to read fluently and write from dictation, that he can indite a piece of plain composition without any

¹ A vote has lately been taken in a part of the kingdom of Bavaria, on the question whether sectarian schools shall be changed into unsectarian public schools. An interesting vote is reported from the town of Neustadt. The large Protestant population was unanimous in favor of unsectarian schools. The Roman Catholics voted 594 for, to one (the parish priest) against. The Jewish vote was also unanimous in favor of the change.

gross mistakes of spelling or phraseology, and that he is master of the four rules of simple arithmetic.

The annual charge for admittance for each scholar is fixed by the decree at not less than 5 florins ; but it is provided that in cases of well authenticated want of means, this charge shall be dispensed with, and the scholar admitted free of all payment.

Besides the regular scholars who follow the whole course of study laid down for each class in the school, special scholars, known as "hospitants," who receive instruction only in some particular branch of education, may be admitted by special permission. The annual fee paid by them is half of that paid by the regular scholars.

The statistical returns for 1863 give the total number of scholars frequenting the 29 agricultural and trades schools during that year, at 3,539 ; the average number has not increased materially since that period.

Divided according to provinces, the number of the scholars and the religious confessions to which they belonged, were as follows :

	<i>Catholics.</i>	<i>Protestants.</i>	<i>Jews, etc.</i>	<i>Total.</i>
Upper Bavaria	449	57	7	513
Lower Bavaria	250	4	..	254
Palatinate	113	296	46	455
Upper Pfalz	185	56	2	243
Upper Franconia	137	256	40	433
Central Franconia	68	446	80	594
Lower Franconia	316	120	34	470
Swabia	339	205	33	577
Total	1,857	1,440	242	3,539

The largest number of teachers at any one trades school to which the foregoing returns refer, was 344 (at Munich), and the smallest number 45 (at Neuburg, in the province of Swabia).

According to the statistical returns already mentioned, the revenues of these schools amounted for the year ending September 30th, 1863, to a total of 255,264 florins, which was derived as follows :

	<i>Florins.</i>
From Government or from provincial funds ¹	175,449
From municipal funds	41,970
From payments made by the scholars	12,928
From endowments	7,846
From private subscriptions, and property belonging to the schools	17,071
Total	255,264

¹ In the return from which these details are taken, the sums contributed by Government and from provincial funds are not stated separately, but are both included under one head.

The subvention paid to each school from the Government and provincial funds varied from 1,000 to 14,379 florins ; that from the municipal funds ranged from 50 florins to 4,060 florins.

The "fortbildungs-schulen," or "schools for further improvement in education," were called into existence by the decree already referred to, for the general reorganization of the system of technical education. The special object for which they were established was that of affording a means of education to apprentices or workmen who had not been able to attend the regular course of instruction at the trades schools, or of giving to youths who, after having attended those schools, had entered upon a trade or handicraft, the opportunity of further improving the education which they had received. With this view, the classes are held on Sundays and holidays, and also on the evenings of two working days in the week. These schools are for the most part accessory to, and established in the same building as the trades schools, but in some cases they form separate institutions. They consist of two divisions, namely, the elementary section, and the section for special trades or handicrafts. The elementary section is intended as a means for continuing and improving upon the course of instruction followed at the national schools ; the special section, as an institution for instruction in matters connected with trade and commerce, and for applying the theoretical knowledge acquired to the practical exercise of a particular trade or handicraft, the character of such trades or handicrafts being regulated according to the requirements of the particular district in which the school may be established. In the elementary section, the subjects taught are the following :

Religion ; German language (composition, commercial style, etc.) ; Arithmetic ; Drawing.

In the special sections : Drawing, in its several branches ; Embossing and modelling ; Arithmetic, and its application to trade and commerce ; Geometry ; Natural history ; Chemistry ; Knowledge of the different articles and substances constituting the staples of trade and commerce ; Mercantile book-keeping ; Practical exercises in different trades and handicrafts.

These schools, in so far as they are established as independent institutions, and not as branches of the trades schools, are supported chiefly from the communal funds, or other local sources, and are under the direction of the magistracy or town authorities.

Instruction in the elementary branches of education is given, as a general rule, by the teachers at the trades schools ; instruction in trades or handicrafts, by practical workmen engaged in those callings, who are specially employed by the school authorities for this purpose. The only qualification necessary for admittance as a scholar at these institutions is that of having attended the national school during six years, as required

by law. The instruction afforded at them is given, almost without an exception, free of charge. According to a statement which appeared in the semi-official journal of Munich, there were at the beginning of 1867 fourteen of these schools in Bavaria, either in connection with trades, or as independent institutions, and the number of scholars attending them was about 560.

The establishment of this description of Sunday and holiday school has been much appreciated by the working classes, and their number is being increased. The practical working of these schools, and the general effect of the education afforded by them is most satisfactory, the result being that the educational standard of laborers in Bavaria is in many respects higher than that of the corresponding class in some of the most enlightened States of Germany.

ETYMOLOGICAL REVERIES.

BY PROF. F. L. O. RÆHRIG.

AS their name indicates, the following papers are not intended to be in method strictly scientific: they are *reveries*.

Having been forced to dabble more or less in the languages of many peoples, in our wanderings over the world, a swarm of words buzz around every object. We shall divert ourselves with them,—make words our playthings, and lying back in our easy-chair, blow them into the air about us like so many soap-bubbles. Is it not in dreams, or in the abandon and spontaneity of play, that glimpses of hidden truth often come to us? Perhaps in these “Etymological Reveries,” we may make happy guesses that will point the way to fruitful research.

I. *Negation*.—Choosing for our present subject the forms of *Negation*, in various languages, let us begin with the language most commonly known among the educated.

In Latin, *not* is *non*, which by dropping the final mutable liquid *n*, is reduced to the syllable *no*, as in *nolo*, etc.; we also meet with *ne*, as a prohibitive particle, appearing likewise in *nemo*, *nefas*, *nequeo*, *nequam*, etc.; and likewise with *ni*, as in *nisi*, *nihil*, *nihilum* (by apocope for *nehilum*). It appears reduced even to the mere letter *n* in *nullus* (the negation of *ullus*), *nunquam*, *nuspian*, *nusquam*.¹ It is also expressed by

¹ The same occurs, as the reader may recall, even in our own language, if we will but consider words like the following—viz., *ever* and *never*, *either* and *neither*, *ought* (= *ought*) and *nought*, *one* and *none*;—which negative forms were in the Chaucerian period written, moreover, so as to show at the first blush *ne* in combination with the affirmative forms; as, for example, *ne ever* = *n'ever* = *never*, etc.

nec (which, despite of the opinion current among Latin scholars, we cannot, for a multitude of reasons, view as identical with *neque*).

It is also met with under the form of *neg*, as in *nego*, *negatio*, and similar derivatives; and in *negligo*. The negation *nec* or *neg* is, doubtless, of the same origin as the radical syllable of the verb *nec-o*, to kill, and *nex* (for *nec-s*, *nec-is*), death. In the Egyptian symbolic writing, *negation* was expressed by two human arms spread out as if to hinder a person from passing on his way; thus indicating an obstruction, an obstacle, or, generally, the idea of counteraction, opposition, and—by extension of the same idea—injury and damage. Thus *neg-o*, *nec-o*, and *nec-eo*, which latter signifies to *injure*, to *hurt*, coincide in their fundamental meanings as well as in their external forms; for if we call to mind the interchangeableness of the guttural letters, and the indeterminate, fluctuating nature of the vowels, we shall see no *essential* difference between *neg*, *nec*, *nec*, they all being reducible to the consonantal framework or formula *n—c*.

This *n—c*, or, in other words, the *NEG* or *NEC* of the negation, the *NEC* of *nex* (*nec-s*) death, the *NOC* of *nec-eo*, to injure, to hurt, reappears in the Latin word *nox*, which means *night*: For, the word *nox* stands for *nocs* (with *c*) like *nex* for *necs*, etc.¹ And in the genitive and other cases of declension, and all the derivatives, we meet, indeed, not with *nox* (night), but with *nec-t*; as, for instance, *nocturn*, etc. Here *nec* (of *noceo*) to injure, to hurt, and *nec* (of *nocs*, *noct*) night, are seen to coincide. But they coincide even as to their very forms with *x*, viz.: *nox*, night; *nox-a*, damage, hurt, injury; *nox-a*, punishment; *nox-ius*, guilty, which latter signification is authorized by Tacitus: “Conjuratōnis *noxius*,” and by Livy: “Multos *noxios* judicavit.” We also meet in the Latin of different periods with *nox-itas*, *nox-ialis*, *nox-iosus*. And as many modern languages, even though they be greatly mixed and much altered, unconsciously, and by an unerring instinct, as it were, often tend to produce words which are related and connected in their *outward forms* quite as much as are the *ideas* for which they stand, the French words *nuit* (night) and *nui-re*, il *nui-t* (to injure, to hurt), might justly be referred to this head.

As to the relation between *nox* (night) and *nex* (death) (they being both reducible to *n-x*), we quote Horace: “Omnes manet una *nox*,” and, elsewhere, “Jam te premet *nox*.” So Virgil: “In æternam clauduntur lumina *noctem*,” where *nox* constantly means the same as *nex* (death), either violent or natural death. Touching all other coincidences of *night*,—with *death*, *damnation*, *wintry coldness*, *mental darkness*,—we

¹ Priscian tells us: “X duplicem loco c et s, vel g et s, postea Græcis inventam assumpsimus, ut dux, ducis (pro ducs), rex regis (pro regs) pax pacis (pro pacs) paciscor, pacificus,” etc.

refer, among others, to the following passages—viz. : *Nox* (night) means *Hell* in Virgil : “Ire per umbram *noctemque* profundam ;” and again : “Descendere *nocti*.” Hell and the God of Hell, Pluto, were, by the ancients, placed under the earth, where no sunbeams can penetrate to warm or light the deceased. The Latin expresses it by *nox*, implying the coldness superinduced by the temporary absence of the sun. “*Noctem* hiememque ferens.” The absence of an intellectual light, or mental darkness, folly, and ignorance, are also expressed by the Latin *nox*, as in Ovid : “Tantaque *nox* animi est.” *Nox* being the privation of light, and connected with the ideas of calamity and distress, has also been instinctively introduced with that meaning into language ; as we read in Cicero, for instance : “Sic effusa reipublicæ *nox* esset.” *Night* is, in language, frequently connected, as to its radicals, with those of *negation*, as we have already seen. Is not *night* really a negative manifestation of things around us? Not only in the Indo-European, but in other and quite heterogeneous languages, as the Shemitic, the Tartar-Finnish, etc., we meet with this coincidence. Thus, in Arabic, Hebrew, Chaldaic, etc., the negative (no, not) is expressed by *la* and *lo* ; while *night* is denoted by a word forming a double negation, as it were, by the repetition of the radical *l*, thus : *la-la*, *lai-la*, *lail*. In any case, *la*—(generally *l*)—is the *essential* part of the word *night* in the Shemitic tongues. And in a similar way the same *la*, *lo*, enters into the verb denoting the idea of *hiding*, *covering*, as in Hebrew *laal* and *lot*. This very coincidence of the *negation* with *night*, so far from being regarded as mere chance, is, on the contrary, and in an unquestionable manner, to be met with again in a very different class, that of the Central Asiatic or Tartar-Finnish languages. Thus, in Turco-Tartar, we find *tunkil*, *not*, *no*, and *tun*, night, and *tun*, evil. And here we may suitably mention the English word *night*, in the same way, the German *nacht* (night) and *nicht* (not) ; both being reducible to their common foundation or rudimental form *n-cht*. [That they stand in precisely this relation with each other, is clear from the double fact—1st. That the German *ch*, corresponds to *gh* in many cases, as Ger. *licht*, Eng. *light* ; Ger. *sicht*, Eng. *sight*, etc. 2d. That the German often has *a* before *ch*, where the corresponding word in English takes *i* before the *gh* ; as, for instance : Ger. *mach*, Eng. *might*, etc., and thus, in the case under consideration, Ger. *nacht*, Eng. *night*.] As *night* is the absence of light, and accordingly, darkness, so we see the word dark, or black, likewise related to the radicals we treat of. *Black* is called in Latin *niger* (*nig-er*), which *nig* reappears precisely the same in the English word *nig-ht*, and is thus related to *neg* in *neg-ation*, etc. The English word *night*, the Latin *niger*, the German *nicht*, might be reduced to their simplest forms (agreeably to the common fact that gutturals are often lost), to *ni*, which we see in *ni-si*, *ni-hil*, etc., while the more especially ele-

mentary form of *ne*-(g)o, *ne*-(c)o, *ne*-c, is *ne*, which we find in *ne*-mo, *ne*-quam, etc., and that of *noc*-eo, *nox*, etc., is *no*; *non*, as is seen in *no*-lo; so that the *negation* is, as it were, the primitive and fundamental idea of *death* (*necs* or *nex*, *neco*), *darkness* (*nig*-er), *night*, etc., which all grow out of it by means of the addition of gutturals.

But as *noc*-s and the Greek νύξ (= νυκς), *night*, refer quite as well to the ideas of *hiding*, *enveloping*, *including*, as the above-mentioned *laal* and *lot* did in Hebrew, so the Latin word *nucs* (conveniently written *nux*, and meaning a *nut*) can be brought into the closest relation with it. While *nocs* (*nox*) means *night*, *nuc*-s (*nux*) refers, in its primitive sense, to the ideas of *enclosing*, accordingly *darkness*—a kernel involved and hidden, etc. We here merely advert to the words derived from *nux*—viz. : *nucleus*, and to *enucleate*, which means to *elucidate*—to render *lucid*, to bring to the daylight out of the darkness, to throw *light* on, etc.

Now, if it be asked how the ideas of *negation* and *evil* were or became primitively connected, we answer that the universal order alone is *Affirmation*, or that all which is in conformity with the Divine plan of creation is necessarily affirmative. Evil as a *striving against* the created order of things, became, as it were, an attempted *lessening* or *diminishing* of it, a *breaking*, an *infraction* of its laws, as we intuitively express it in language. And when we consider and investigate the words expressing *evil* in different tongues, what do we find? Let us again begin with the Latin. Here we see the idea of evil expressed by *mal*-us, *mal*-e; *us* and *e* being mere terminations, the only important part of the word is *mal*, just as it appears in French—*mal* (ill or evil). As vowels are not fixed, but in a continually fluctuating state, *m-l* is the real Romance formula for *evil*. This we have a right to suppose is connected with the series of ideas of *lessening*, *diminishing*, *small*, *little*, etc. And indeed, *m-l* reappears in the Slavonian languages in *mal*-o, small, little, in *mal*-tchik, a hammer or an instrument which reduces a thing to smaller parts. In the Germanic group we meet with *m-l* in *mal*-en, to grind, which likewise implies the idea of lessening, breaking the grain into *mel* or *me(h)l*, *meal* (*flour*). And this is so little a mere hypothesis that, in French, *mal* has even in some instances the meaning of (*s*)*mall*, little, as “*pas mal*,” not little, not a few; a fact that every one acquainted with the colloquial French is well aware of; while, on the other hand, *bien* (well, good) means also, much, many; as, for instance: *bien des choses*, many things, *bien de l'argent*, much money, etc. Thus, as to *mal*,—smallness and evil do evidently here coincide. Something of the same nature we see in the Latin *parvus* (small), and by the so very frequent transposition of the letter *r*, *pravus* (wicked). And in Hebrew we see that TZAR means, 1st, He is become *little*; and 2dly, *mean*, *contemptible*; also in Arabic, SAGHIR signifies, 1st, *small*; 2dly, *bad*, *abject*, *mean*. In the Tartar-Turkish of

Tobolsk, *кѣм* means, 1st, *small*; 2dly, *bad*. As we were speaking particularly of night and darkness, the color black, etc., and the radicals *nig* in night, and *nig-er* (black), so we have here again to state that *mal* (bad, wicked) reappears (as to its radicals) in the Sanscrit *malinas*, which means, 1st, *malignus*; 2dly, black, and is thus related to the Greek *melainos*, the genuine form of *melas*, black; which coincidence of wickedness and black is strongly marked, especially in the French word *noir*, as *cœur noir*, *noirceur*, etc. But even in *malinas*, *mel-* (as, *-ainos*), etc., *mal*, small, little—that is, negation, want, deficiency—seems to have been the primitive and fundamental idea; wickedness or evil, referring constantly to a want or an incomplete or negative condition with regard to absolute affirmation. And when we now consider the opposite of evil—viz., good—we see it, in many instances, most intimately related to the idea of plenitude, fulness; and thus in French, *bien* expresses *well* and *much*, as has already been shown. And do we not also say in English a “good deal” for a “great deal,” or considerable? Goodness appearing thus, as it were, a *qualitative* greatness, just as greatness in size may be viewed as a *quantitative* goodness. And do we not speak of a GREAT man in a moral sense, which even became an epithet of many kings and rulers? Bad, evil, denoted as we have seen, a *want*, a deficiency, and was kindred to the *negation* and its expression in different languages. Accordingly, *good* being the opposite term and referring to plenitude or copiousness, implies *affirmation*, or its expression in language—viz., the *affirmative* Particle.

Thus we see in English *well* used for *yes*; in French *bon* and *bien*. There are also languages where there is no other word for *yes* but the word *good*; and others, where *good* is the most usual affirmative. Thus in Turko-Tartar *ol*, which signifies, 1st, fire, and 2dly, wood, fuel, denotes also *good*, and (with a different pronunciation but the same orthography) is used for *yes*. In Arabic *na'm* signifies, 1st, *good*, *kind*; 2dly, *yes*. In modern Greek, *yes* is expressed by the word *malista*, and sometimes by *kala*. In Latin, *yes* is *sane* (adverb of *sanus*); also *sane vero* (from *sanus*, expressive of healthy, valuable, good, and *verus*, true).—[Our word *verily* comes from *verus* (Latin), true, and is used as a strong affirmation. In colloquial English, we substitute, sometimes in the same way, *pretty* (referring to good and to beauty) for *very* (referring to truth), *pretty well*, for instance, being often almost an equivalent of *very well*; this word *very* expressing a high degree, or, what is the same, *qualitative* greatness, derived from *verus*, true.]

Besides the mutual relationship we have seen, of the ideas and terms expressive of *evil*, *damage*, *injury*, *death*, *hades*, *night*, and *negation*, we have still to add to the same series *north* and *left hand*. Thus we have in Hebrew *shemol*, and in Arabic *shimal*, expressing, 1st, *north*; and

2dly, *left hand*, which is an instance of the two being expressed by one and the same word. And the same coincidence exists in Irish, where *tuaidh* means *north* as well as *left hand*. The *north* is indeed the left, when the face is turned toward the east, as in the worship of oriental nations. In Latin, the *left* is expressed by the word *sinister*, which besides refers to *evil*. In Finnish, *kura* means *left*, and *kura-d* signifies *devil*. The coincidence of *left*, and consequently *north*, with *evil* may be accounted for by the fact, that the east being the starting point for the sun, going to the *left* is, as it were, going *wrong*,—"contra solis cursum *flectens*."

On the other hand, we see there is a coincidence of *right hand* with *good*, and also with *south* (the very opposite of north). Thus in Hebrew *yamin* means, 1st, *right hand*; 2dly, *south*; in Arabic *yamdn* means, 1st, *right hand*; 2dly, *prosperous, happy*. (*Yaman* or *jaman*, vulgarly *jemen*, is the *happy Arabia*.) Just so in Turco-Tartar, where *ong* means, 1st, *good, prosperous*; 2dly, *right hand*. In Hungarian, too, *jo* means *good*; *jobb*, *better*; and *jobbra*, the *right hand*.¹ The word expressing *right* is related to *good* in many other languages, as, for instance, in German, where *recht* means, 1st, *right*; 2dly, *good*; 3dly, *law*; 4thly, *just, fair*; as from it we also derive *richtig*, *gericht* (judgment), *gerechtigkeit* (justice), *richter* (judge), etc. This whole chain of meanings and most remarkable coincidences might perhaps be still farther extended and developed by drawing from many other quarters of philological science.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION IX.—(Concluded.)—Phosphorus.

PHOSPHORUS bears a resemblance to sulphur, so far that the two have been classed together under the name of the *pyrogens* or fire-producers.

This element occurs in combination, in minerals, plants, and animals. It is prepared from bones. From the chemist we obtain it in the form of cylindrical sticks, half an inch in diameter, semi-transparent, slightly yellowish, and somewhat resembling wax, although at ordinary temperatures it is harder.

It is kept in water. If exposed to the open air it slowly oxidizes.

¹ In Greek, however, *aristera* (the *better one*) means the *left hand*, by an *antiphrasis*, just as the *Furies* were called *Eumenides*, and the *Black Sea* Pontus Euxinus (*eu-xeinos*).

When in the water, if exposed to the light, it becomes covered with a coating which has a yellowish red tint, and is quite opaque.

When phosphorus is being cut or otherwise handled, preparatory to experimenting with it, great caution is necessary, as when dry the slightest friction or even the heat of the hand may ignite it.

Phosphorus may be dissolved in ether or bi-sulphide of carbon.

Exp. 108. Put into a small flask half an ounce of ether, and a bit of phosphorus as large as a bean. Cork the flask and let it stand some days, shaking it occasionally. Pour a small quantity of the clear liquid on the hand, in a dark room, and rub the hands briskly. The ether evaporates and the phosphorus becomes luminous, by reason of oxidation from the air.

Exp. 109. Moisten a lump of sugar with the ether solution and throw it into hot water. The phosphorus burns with a little flash at the surface of the water.

Exp. 110. Cover a thin slice of phosphorus, on a bit of stick or pasteboard, with dry powdered charcoal. After a few minutes the phosphorus takes fire.

Experiments like the last, or *Exp.* 87, may be safely performed on the lecture-table with no other protection than a bit of shingle or pasteboard; neither of these is set on fire by the burning phosphorus.

Exp. 111. The different degrees of oxidation of phosphorus may be beautifully shown by employing a glass tube, from a quarter to a half inch in diameter, eight or ten inches long, and slightly bent near one end, though this last condition is not essential.

Put a few bits of phosphorus into the tube. If it be a bent tube, let them rest at the bend; if straight, the phosphorus should be only two or three inches from one end. Hold the tube, both ends at the same height, over the flame of the spirit-lamp, so that the heat shall be applied to the phosphorus.

As soon as it melts, raise the long end of the tube gradually, until, by reason of the current of air through the tube, the phosphorus bursts into flame. The white vapor that issues from the tube is phosphoric acid. Lower the upper end of the tube gradually; combustion is less vigorous, and phosphorous acid is deposited on the inside of the tube.

When the tube is nearly level the reddish yellow oxide of phosphorus is abundantly formed.

By alternately raising and lowering the long end of the tube, the different phases of the experiment may be repeated several times.

The best solvent for phosphorus is bi-sulphide of carbon, an extremely disagreeable, volatile liquid, which may be obtained of any chemist.

Slices of phosphorus added to this liquid are rapidly dissolved. One ounce of the bi-sulphide is sufficient.

Exp. 112. A bit of paper wet with the above-named solution, if left in the open air for a minute or two, burns with a bright flame.

An interesting phenomenon in connection with this experiment is, that the paper burns only so far as it is wet by the solution.

Most of the so-called "Greek Fire" preparations are composed of the above bi-sulphide solution, with the addition of some other inflammable liquid, whose office is to continue the combustion which the phosphorus begins.

Exp. 113. Set some water boiling in a pint flask, drop in a bit of phosphorus as large as a pea. It melts readily. By means of a bag and a small curved tube, force a stream of oxygen upon the melted phosphorus.

It burns with much fierceness and brilliancy.

Exp. 114. Phosphuretted hydrogen requires, for the single experiment that is performed with it, considerable care.

Use a two or three ounce retort,—one without a stopper is safest. Fill it full, neck and all, with a strong solution of hydrate of potash. Add a piece of phosphorus as large as a marble.

Prepare a saucer or other shallow dish nearly filled with the potash solution, and set it so that when the retort is in position for the application of heat, the beak of the retort shall just dip below the surface of the liquid in the shallow basin.

Immerse the end of the neck of the retort without pouring out any of its contents. This is accomplished by covering the aperture with the finger until it is immersed.

Protect the bowl of the retort with a dish of sand and apply heat.

The gas is soon evolved, and after a time fills the bend and the entire neck. The heat must now be so regulated that a bubble at a time shall escape at the surface of the liquid in the basin.

A bright flash and a slight report accompany the bursting of each bubble; and, if the air is still, a beautiful ring of white vapor, which rises slowly to the ceiling.

In a darkened room the rings may be seen to be faintly luminous.

The following precaution had better be observed in "taking down" the apparatus at the close of the experiment.

Close the end of the neck of the retort with the finger, and taking it from the stand, immerse it entirely in the pneumatic trough; now inclining the neck upward, let the gas out a little at a time, so that it shall come through a slight depth of water.

Experiments 39, 78, and 87, may be profitably repeated with this section.

WHAT a glorious world this would be, if all its inhabitants could say, with Shakspeare's shepherd: "Sir, I am a laborer; I earn what I wear; I owe no man hate; envy no man's happiness; glad of other men's good; content with my farm."

OCTOBER, 1869.

OLD WINE IN NEW BOTTLES.

EVER and anon, as the world grows in age and varied experience, the wise saws of former times are discovered to be no better than delusive fallacies. The maxims of ancient experience fail under the vicissitudes of modern life. The very aphorisms of the copy-books,—the gems of wisdom that have served to guide untold generations in the ways of penmanship and virtuous conduct,—are not exempt from the innovations of these latter days. One by one the proverbs of the past are ruthlessly disproved, until we begin to despair of the permanence even of our most cherished beliefs. The last saw cast down from the place of honor is the one which says that great men never repeat themselves. That comforting saying is no longer to be depended on: the rule is broken; and the Veteran Educator has done it.

Yet, after one has become reconciled to the thought that great men *may* repeat, it is possible to forget the loss the copy-books have sustained, in consideration of the great gain that must accrue to the army of school superintendents from the brain-saving invention by which the venerable superintendent of our sister city is enabled to repeat himself from year to year so entertainingly and with so slight an outlay of mental effort. We say the good that must accrue, and we believe that it will accrue right speedily; for though the invention is yet comparatively unknown, and great inventions are always slow in achieving popular recognition, we are confident that this will not be long in acquiring a national reputation after these writings are published to the world. Our proverbially wide-awake school-officers will find it too much to their advantage not to neglect so signal a means of simplifying their labors; and we are sure that they will only regret with us the inventor's shrinking modesty which

has kept him so long from raising from its undeserved obscurity this precious offspring of his brain. Whether the invention has been christened or not, we are not informed ; certainly no name for it has been published by the inventor. In view of our being the first to bring the subject prominently before the public, we will venture to suggest as an appropriate name, Professional Shuffle and Deal ; or an Easy Way for Making School Reports—subject, of course, to the inventor's approval.

The invention consists of sundry packets of paper-slips, or cards, on which are written or printed (the latter is the better way) certain sentences expressing such ideas and sentiments as would be appropriate under the several heads of an official report. For example, one packet would contain all the ideas required under the head of *Music* ; another, those applicable to *Evening Schools*, and so on.

When the time arrives for making a report, the cards of the several packets are separately shuffled, and then dealt out as in an ordinary game at cards. After dealing, the sentences are copied in order by a clerk or secretary, with such adaptation of phraseology as may be needed to suit the pre-determined style of the Report. The next year there is a new deal, and a new report, and so on from year to year. It is astonishing to see what a variety of reports may thus be made with a very few ideas, with no tax on the Superintendent's mentality, and no risk of the introduction of unauthorized or contradictory sentiments.

To appreciate the beauty of this invention one needs only to witness its application in the last half-dozen annual reports of the inventor,—the ingenious superintendent of Brooklyn,—to the State Department at Albany. It is positively exciting to follow an idea through the different phases and connections in which it appears in these reports in the course of four or five years. Take, for instance, the sentence which notes the Americanizing influence of Evening Schools ; or that which calls attention to the convenience of certain specified books as helps to teachers and pupils ; or the one which portrays the harmonizing influence of music.

Sometimes, however, it happens that certain cards will run together for two or three successive years. In such cases there will be a surprising resemblance between whole paragraphs. This is also noticeable when but few remarks are made under a given head.

The following is an example of the running together of the cards :

Under "Evening Schools"—1868.

An institution which makes provision for those who have not had the advantages of an early education, and more mature training and culture, that offer instruction in the elements of an education, freely, without money or price, should command our respect, enlist our sympathy, and secure our hearty co-operation and liberal support. Such is the evening school. It affords instruction at an hour when labor ceases, and when the young are peculiarly exposed to temptation; it invites all classes, both male and female, desirous of instruction and improvement, to enter its doors and enjoy the privileges afforded, and thus secure to themselves a power which will enable them to engage in any work with intelligence and skill, and successfully perform their duty.

Under the head of "Music," we find a good illustration of the second case mentioned, and one in which the copyist has varied the style of expression with commendable skill:

"Music"—1868.

This department of instruction is too important to pass unnoticed. Its influence can hardly be estimated. While music does not teach us directly how to solve those intricate problems which daily arise, and in which the idea of profit and loss is the consideration, yet it does contribute to the culture of the heart and affections, adding to the pleasures and happiness of teachers and pupils. It tends to the formation of good habits, promotes order, aids in the discipline of the school, relieves the monotony of the round of lessons and recitations, awakens new life in the school-room, and excites a common sympathy of joy, gratitude, and love in the hearts of all.

When there is a larger number of cards in a pack, the several ideas seldom run so closely together for two successive years. Indeed they are generally so scattered in the shuffling, that any given idea turns up at different times in most unexpected places and connections. To realize

Under "Evening Schools"—1869.

An institution that makes provision for all who have not had the advantages of early instruction, and more mature culture and training; that affords the means of instruction freely, without money or price; that supplies intellectual wants at an hour when labor ceases, and when the young are peculiarly exposed to temptation; that invites all classes, male and female, to enter its doors and enjoy its privileges, that they may secure to themselves a power by which they may be assisted in the discharge of the various duties, relations, and exigencies of life; should command our respect, enlist our sympathy, and secure our hearty co-operation and liberal support.

"Music"—1869.

There can be no doubt that music has power, and that its influence, where properly taught, is decidedly good. It contributes to the pleasure and happiness of the teachers and children, by exciting a common sympathy among them; it is an important instrumentality in forming good habits, and promoting good order; it imparts new life and cheerfulness, by relieving the classes of the monotony of lessons and recitations; it tends to improve the voice, by the culture of the vocal organs; and, better still, to refine the feelings, and inspire the heart with love and gratitude to the Giver of all Good in songs of praise, in unison with those that fill the courts of heaven!

this interesting fact to the best advantage, it is necessary to compare the remarks made under a given head, for three or four different years, not by paragraphs, but as a whole ;—since an idea that falls in one paragraph one year, may turn up in another and quite different one the next year.

We regret that our space does not permit us to do justice to this remarkable invention by quoting more at length. We must content ourselves with adding a few of the edifying remarks which have appeared under the head of “ Libraries.”

1865.

Most of our schools are supplied with libraries, and the books are sought with interest, and read with profit. They are generally well used, and kept in a good state of preservation. Among the books of our libraries are many of great value in every department of literature, science, art, and industry. Here the teacher may find in the various “ hand-books,” dictionaries, encyclopædias, gazetteers, and other books of reference, such helps as may be necessary in order to understand any question that may arise in the class-room on a given subject, but which is not fully discussed in the text-book.

Here, too, the children find books adapted to their capacities, in the reading of which they may be entertained, interested, and improved. The general reader, also, may find in volumes of history, biography, travels, etc., means of entertainment and profit for a leisure hour, which may render home pleasant to himself and others. In this manner the library becomes an instrument of good, not simply on account of its intrinsic value, but by preoccupying the mind with that which interests, instructs, and ennobles; leading to knowledge and virtue, and thus preventing idleness, dissipation, and vicious indulgences. Books are serviceable only when we give to them thought, and inwardly digest what we read. The truths of a good book carefully read, strike their roots deep, not only into the understanding and memory, but the affections; and thus rooted, good fruit is produced.

1867.

The library is not a modern institution. In early times libraries consisted mostly of archives, which were deposited and preserved in the most sacred temples. In all ages the library has been a silent but powerful teacher. Its influence has been felt in forming character, and shaping the destinies of individuals and nations. In the library the many thousand voices of the past are heard in the present, and will continue to be heard in the future. If these silent teachers impart sound instruction alone, then shall we learn wisdom; if error, then untold evil must follow. A good book thoughtfully read strikes its roots deep, not only in the understanding and memory, but in the affections. Truth thus rooted would be very difficult to eradicate.

In our libraries may be found books appropriate to the child and the adult; to the comparatively uneducated mind, and to the scholar. Here we find books in every department of literature, comprising works on science, art, government, history, biography, and morals. Here, too, we find books of reference, of great value to the teacher and the advanced pupils, such as dictionaries of commerce, of biography, cyclopædias of literature, gazetteers, encyclopædias, and various hand-books of reference, the value of which cannot be estimated.

If, then, the library is a source of interest, instruction, and profit to the teachers, the pupils and the people; if in its reference books they find the aid they need in the prosecution of

their studies; if entertainment, instruction, and profit are found in the use of the books; if the feet of the young are by these means restrained from running into danger and wandering from the paths of knowledge and virtue, then we have here an influence for good, a powerful auxiliary in the education of our youth, and a source of interest and profit to the families into which these volumes are carried.

1868.

Books are silent teachers, but may become instruments of great good, or of unmeasured evil in the education of our youth. From the time of Faust to the present, the influence of books has been perhaps greater than any other simple instrumentality in forming the character and shaping the destinies of individuals and nations. A book may be taken in hand for a few minutes, the truth finds a lodgment in the mind, an interest is excited, the spirit of inquiry is aroused, investigation follows, mind is developed, and influences are set at work affecting the whole man, and controlling, in a great measure, his usefulness in the present, and his happiness here and in the world to come.

We enter the library, select a volume, and on opening it, find the page all aglow with

"Thoughts that breathe, and words that burn!"

We seem to hear the voices of the master minds of the past, in the "living present!" They teach, and will continue to teach in all coming time; if their teachings are wise, they who read and understand shall be wise also; but if not, then untold evils must follow in the train. How important that these fountains of knowledge be pure as well as free! . . .

The books of many of the libraries are well read, and are exerting a powerful influence upon the minds of a large number of persons, not connected with the schools, as well as upon the teachers and pupils themselves. The library books find their way into families, and the treasures of wisdom they contain are thus brought

within the reach of all who extend the hand to receive them. To the young, they furnish the means of rational entertainment and improvement, free from the seductive influences that beset their path as they go out into the world and mingle in society. This class of persons must have something with which to occupy their leisure moments. If not engaged in study or in reading, they may, as many have done, find their way into evil company and places of amusement or dissipation, where instruction and wisdom are not found, but where the snare of the fowler is set for their feet, and in which the unwary are often entrapped. How important that books be fountains of purity, and sources of wisdom and knowledge!

In our libraries are found, not simply books of popular reading, but a great variety of hand-books of reference; such as dictionaries of science, art, literature, commerce, encyclopædias, etc.; all of which are of great value to teachers and pupils, in reference to questions which may arise in the study of their lessons, or in the illustration of a given subject.

The libraries are also rich in books of history, biography, travels, the science of government, and mental and moral science.

1869.

It appears strange to me that any person of intelligence and observation, who has given any attention to the subject, can doubt its adaptability, influence, power, and importance, as an educational means in a system of public instruction. It is an institution of great antiquity, and of acknowledged power and utility among all civilized nations. A library, well filled with good books, may become a powerful instrumentality in developing and cultivating the mind, communicating knowledge, and forming correct habits of thought and action.

An institution which gathers the researches, discoveries, experience, and wisdom of the great, wise, and good from among the nations, and makes a free-will offering of all to

those who will turn aside and enjoy the same, confers an inestimable boon, the value of which cannot be estimated.

Here are to be found books in almost every department of literature, science, and art. Here are good selections of biography, history, travels, and voyages; of moral and intellectual philosophy; of political science and government; and of the standard authors of fiction. Here, too, are found many hand-books of reference, such as encyclopædias, dictionaries

of art, science, literature, commerce, gazetteers, etc.; all of which are of great importance to the teacher and pupils in the investigation of any particular subject, or in answering a difficult question that may arise in the class.

What an amount of material for intellectual and moral culture, well adapted to all classes; the old and the young, the scholar and the tyro, in learning! What an engine of power; and, if properly directed, what grand results!

It is hardly necessary to remark, in conclusion, that the general style and character of reports made in this way, is easily regulated from year to year. The superintendent has merely to decide whether the style shall be didactic, dogmatic, rhapsodical, or what not, and give the cue to the copyist, who easily runs the ideas, as they are dealt to him, into the given mould. In this way suspicious or unpleasant sameness is avoided, while the available permutations of the cards are largely multiplied. Leading Educators and others, who have frequent occasion to read or otherwise deliver addresses before teachers' meetings, will readily see how advantageously this invention may be used in the preparation of their discourses.

CHARLES DEXTER CLEVELAND.

PROFESSOR C. D. CLEVELAND died of heart disease at his residence in Philadelphia, August 18th. He was born in Salem, Mass., Dec. 8th, 1802; entered Dartmouth College in 1823, and was graduated in 1827. In 1830 he was chosen professor of Latin and Greek at Dickinson College, Carlisle, Pa., where he remained until called to the chair of Latin Language and Literature in the University of this city in 1832. In 1834 he went to Philadelphia to establish a female seminary, which he conducted with great success for many years, devoting his leisure to the preparation of the text-books of ancient and modern literature, for which he is so favorably known. During the administration of President Lincoln, Prof. Cleveland was appointed consul at Cardiff, Wales, which office he held until the present summer.

EDUCATIONAL INTELLIGENCE.

THE NEW YORK STATE ASSOCIATION OF SUPERINTENDENTS AND COMMISSIONERS.—The first subject that received much attention from the Superintendents and Commissioners at the first session of their Annual Convention at Ithaca, July 26th, was the duration of teachers' licenses. Considerable feeling was manifested in regard to a reported decision of the State Superintendent that a Commissioner has no power to grant a license for a period less than one year. The sentiment of the meeting was that licenses for short periods worked very advantageously; and a resolution was adopted asking the State Superintendent to modify his instructions so as to allow Commissioners to license teachers for any time, limited to three years. The power of the State Superintendent to license a teacher rejected by a Commissioner, was also questioned.

The next subject considered was the character of teachers' examinations, whether they should be oral or written or mixed. The main point brought out was that a written examination is not always the best test of a teacher's ability to teach. Dr. Cruikshank instanced a rigid written examination recently held in Brooklyn, where it was found that some of those who answered a low percentage of the questions, actually did more effective work in the school-room than others who passed a much better examination.

The next morning, Superintendent Sheldon, of Oswego, read a report on Uniformity of Examinations, in which he made (among others) the following suggestions:

There should be a State Board of Examiners, composed of the State Superintendent of Public Instruction, and four others appointed by him; and Local Boards of Examiners, each composed of one Commissioner and four licensed teachers.

The State Board should grant diplomas good for life anywhere in the State, outside of the cities; first-grade certificates good for six years, and in all schools below the Union High Schools; and second-grade certificates good for three years, in primary and ungraded schools.

The Local Boards should have power to issue—(a) First-grade certificates for two years; (b) Third-grade certificates for one year; (c) Third-grade certificates for six months, all good throughout the State except the cities.

Candidates for second and third grades from the Local Boards should be examined in arithmetic, English grammar, geography, orthography, reading, penmanship; and for first-grade should be added the elements of algebra, physiology, history, and constitutional government of the United States, the school laws of the State, and the theory and practice of teaching; questions to be prepared by the State Board.

State examinations should be both written and oral, should include in addition to those branches required by the local board, Natural Philosophy, and for a diploma such other branches as the State Board may add.

Diplomas of State Normal Schools to carry the same authority as Diplomas from State Board. No teacher to draw any pay who does not hold one of these certificates. These different grades should thus indicate the amount of experience, the percentage of questions answered, moral worth, and general fitness.

This report was very warmly discussed. Superintendent Bulkley objected to the proposed State Board. Such a board he thought would be a political board, subject to "one-man power." Mr. Barr, of Rochester, thought it would be not only a one-man power, but a board of one way of thinking. Superintendent Sheldon favored the appointment of the Board by the State Teachers' Association; but it seemed impracticable. (Stupendous folly, rather!) Commissioner Pooler, of Oneida county, thought that a live Commissioner would know far better the needs of his district, than the proposed local board. Some districts are unable to employ well-qualified teachers. They had better do something than nothing. Commissioner Allen, of Wayne county, opposed the whole plan. Judgment of a teacher's ability and fitness must be based on visitation as well as on literary qualification. Dr. Cruikshank thought that if Legislative action was to be sought, they should go further and make a State Board of Education to have charge of the entire school-interest. The school-system, he claimed, does not need patching, but a radical change. Superintendent Bulkley said that there was no use of patching up a rickety old house; our State educational system is rotten. Mr. Barr, of Rochester, did not believe in any such board; the school-system needs a power that could act promptly and straight to the mark—a one-man power like that vested in the Superintendent of Public Instruction. Superintendent McMillan, of Utica, thought our present system really Democratic, our plan and our schools and better than those of Massachusetts, with its State Board. If we can do as well in the future, we had better continue patching. Mr. DeGraff, of Rochester, warmly defended our present system and our Commissioners. Teachers from this State are being called to every part of the Union.

The subject was finally referred to a joint committee from the Association of Superintendents and Commissioners and the State Teachers' Association, to report next year.

Dr. Cruikshank made a verbal report on the extent to which the natural sciences should be taught in our common schools. He dissented from the notion that our teaching should be limited by the purely practical. In nature there is an adaptation of means to ends; so should it be in the field of mind. The great evil is not so much in what is taught as in the method of teaching. Our methods should be more inductive, but not carried to extremes even in this direction; the analytic should be brought in as the child advances. Natural sciences should be pursued to just that extent which would keep the balance in the course the child is to pursue. We should not puzzle ourselves too much with moods and tenses, and leave out the great world of Natural Science.

Mr. Barr followed with a report on amendments to the School law. The principal points suggested were: an increase of salary to the State Superintendent, the Deputy Superintendent, and the Commissioners; the discontinuing of the appropriation for district libraries; the abolition of the Board of Regents. It was also recommended that the State Superintendent should be allowed to grant State certificates only on recommendation of the Commissioner under whom the applicant has taught; and that the management of Teachers' Institutes be placed more fully in charge of the State Superintendent.

The only address of importance the second day was Dr. French's on Teachers' Institutes. Indeed this was thought by many to be the most

important address made before the Convention. Dr. French is unexcelled as a manager of Institutes, and his wide and varied experience in the work made his remarks peculiarly instructive and valuable.

He recommended a wider distribution of the Institutes through the year, in order that competent conductors might be obtained; there is no objection to holding an Institute in term-time, as the law provides that the teachers' time and pay shall continue during attendance at the Institute. Within the past few years the experiment of holding Institutes in mid-winter has been tried in several places, in every instance with decided success.

After Dr. French had concluded his remarks, the Commissioners subjected State Superintendent Weaver to a severe examination, the animus of which was not altogether commendable. Mr. Weaver sustained himself admirably, showing himself to be thoroughly competent to discharge the legal and other duties of his office. So utterly defeated, in fact, were the Superintendents and Commissioners, that they carefully suppressed in the Secretary's report of the meeting all mention of their pursuit of information. The officers elected for the ensuing year were: *President*, J. B. Wells, of Madison county; *Vice-President*, E. M. Allen, of Wayne county; *Recording Secretary*, N. W. Edson, of Broome county; *Corresponding Secretary*, Commissioner Whitman, of Cattaraugus county; *Treasurer*, A. McMillan, City Superintendent of Utica.

THE SIXTH ANNUAL CONVOCATION OF THE UNIVERSITY OF THE STATE OF NEW YORK, at Albany, the 3d, 4th, and 5th of August, was one of the most important educational gatherings of the season. We condense from the full report in the *Times*, the following summary of the more important proceedings. The first paper was presented by President Alden, of the Albany Normal School, subject—"Academies and Preparatory Schools."

The paper indicated a high appreciation of the importance of academic instruction; and asserted the desirableness of such endowments for these institutions as should remove from the teacher all inducements to abandon his position for any other. The discussion which followed showed a warm sympathy with Dr. Alden's views, though his suggestions were at some points deemed unnecessary. A more apt criticism, perhaps, would have been that, since academies must exist in every part of the State, the general endowment of them on this enlarged scale does not seem practicable.

A paper by Professor North, of Hamilton College, on the proper age for admission to college, secured very close attention. It was written in a finished and scholarly style, and advocated the elevation of the minimum age for admission. It drew forth much discussion, which was in harmony generally with the Professor's suggestion that the age of admission should not be less than sixteen, or possibly fifteen, instead of fourteen as heretofore.

On the morning of Wednesday the exercises commenced with a paper by Professor Esch on the value of the German language and literature. The address was overflowing with national appreciation, which, though not always within the bounds of good taste, was very cordially received.

A report was next made by Professor Davies upon the French metric system. The Professor thought that the difficulty of translating all the terms of familiar measurement into the new terms of the French system

must be very great. Formerly he had been in favor of a legislative adoption of that system, but reflection had convinced him that the difficulties were formidable. The adoption of a common unit of coinage is by no means so difficult. A slight alteration of our dollar would bring it exactly to the standard of the French five-franc piece ; and a similar change of the English sovereign would harmonize that with the others ; so that a harmonious adjustment of the coins of the great commercial nations seems wholly practicable and very desirable.

A paper was next read by Professor Upson, of Hamilton College, upon "The Military Roll of Honor," showing how largely our colleges and academies had contributed to the army and navy of our country, the men whose toils and whose blood had overcome the recent rebellion, and re-established our country's unity and glory. The roll, he observed, was far from complete, but it was already quite large, and showed a most honorable fidelity to the country in its time of great need, on the part of these institutions.

A paper was presented by Principal Steele, of the Elmira High School, on School Discipline, which attracted much attention. He maintained that order is not to be sought for the sake of order ; and that the undue fixing of attention upon a system of arbitrary rules, which must never be violated, involved more mental effort than was sometimes bestowed upon study itself.

At the opening of the afternoon session of Wednesday, the Board of Regents indulged itself in the unwonted pleasure of conferring degrees. That of Doctor of Philosophy (Ph. D.) was conferred upon Principals Clark, of Canandaigua Academy, and McVickar, of Potsdam Normal School ; and that of Doctor of Literature (L. H. D.) upon Professors North, of Hamilton College, and Martin, of the New York University.

The evening of Wednesday was principally devoted to a social gathering of the Convocation at the house of the Chancellor of the Regents, J. V. L. Pruyn, of Albany, whose generous hospitality through successive years was warmly acknowledged by a unanimous vote of thanks from the Convention.

The principal exercises of the third and last day were the reading of a paper on "The Study of the English Language," by Oliver Morehouse, Principal of Albion Academy, and an address by Prof. Goldwin Smith, on "The Influence of Permanent Endowments on University Education in England." The Professor remarked that he had been a member of several Commissions in England, to investigate the effect of these permanent endowments, of which England is full ; and that his attention had therefore been very strongly called to the very great tendency which they all show to perversion and abuse. Founders are unable to foresee the changes which are inevitable, and which must often render their benevolent intentions wholly useless and often pernicious. When he entered Magdalen College, that institution, endowed with a yearly revenue of \$30,000 in gold, was educating only twelve persons. Merton College, and three or four others, were in much the same state. Vast revenues were misappropriated or absorbed by the hands through which they passed. Charitable endowments fared no better. Even where, as in the great foundation of Christ's Hospital, many hundreds of children are educated on an endowment of this kind, a most injurious effect is found to occur in the destruction of all parental effort and responsibility for the bringing up of the children.

"He will get all that he needs," the parents say, "at Christ's Hospital;" and they give themselves no concern for the education of their offspring.

The appointment of an Executive committee for the next year's meeting, an address of felicitation by President Read, of the University of Missouri, and a few judicious remarks summing up the work of the three days' sessions by the venerable Vice-Chancellor of the Board of Regents, Gulian C. Verplanck, appropriately closed the exercises of the Convocation. The members separated with a quickened and enlightened appreciation of their great work, and with a promise of a still more interesting session a year hence. The Convocation is already a power, and will, doubtless, become still more fruitful in coming years.

CURRENT PUBLICATIONS.

"THE true teacher does not seek to teach by simply putting books into the child's hand, and bidding it to learn; he addresses himself to those faculties and powers of the child's mind which bring it in [to] relation with the world in which it lives. Sight, hearing, touch, smell, taste, and thence observation, judgment, perception, reason, memory, hope, imagination, and the love of the beautiful are appealed to, developed, and strengthened by natural exercise, even as the organs and limbs of the body are developed and strengthened by gymnastic and other appropriate exercises." This we may call the basis of Mr. Sands' "Philosophy of Teaching," which he develops in his essay on "The Teacher, The Pupil, and The School."¹ As will be seen from our quotation, he puts little faith in book teaching as it is commonly administered to the young; and would have teachers "follow nature;" or, in other words, pursue the course of education which the child naturally follows from the period of birth until the usual school course is begun. He believes in children getting knowledge at first hand by the exercise of their senses, rather than second-hand through books; and looks to the ultimate usefulness of the knowledge acquired rather than for any supposititious culture to be got in acquiring it. Though somewhat bigoted and fanciful in some things—for example, in his opposition to Little Red Riding Hood, and "other equally foolish or more injurious" tales—and evidently a student of education from an outside or theoretical point of view, Mr. Sands gives expression to much good sense and sound criticism of the inverted methods of teaching prevalent in the schools.

HAVING little sympathy with the mania for map-making so prevalent now-a-days, we are inclined to regard with favor the "Hand-Book of Map-Drawing,"² designed to accompany Mitchell's New Series of Geogra-

¹ The Philosophy of Teaching.—The Teacher, The Pupil, and The School. By Nathaniel Sands. New York: Harper & Brothers. 8vo, pp. 60.

² A Hand-Book of Map-Drawing. By Peter Keam and John Mickleborough. Phila.: E. H. Butler & Co.

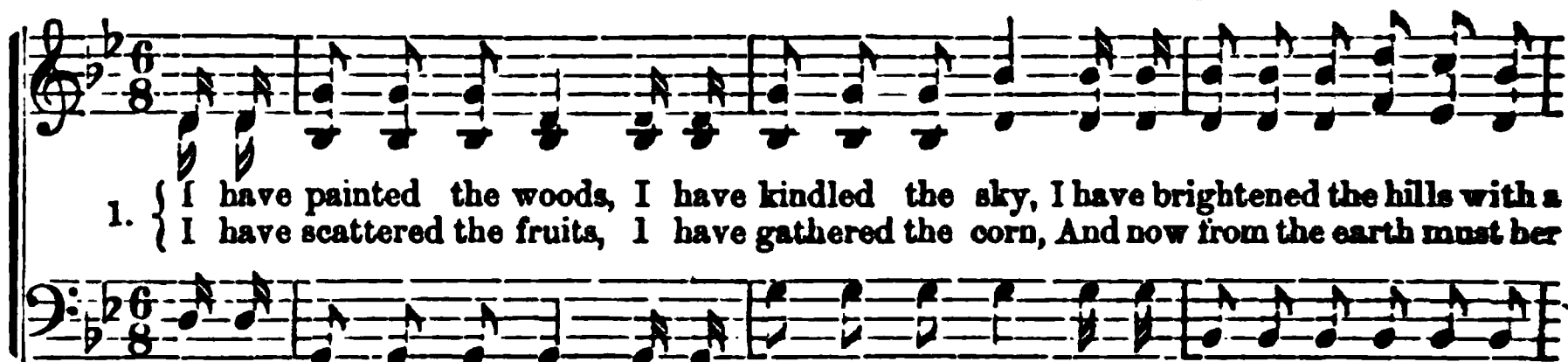
phies—there is so little of it. As a reaction against the old way of studying maps, the new way is good, so long as it is reasonably pursued and kept within reasonable bounds. This, we are sorry to see, is not always the case. Well-drawn maps set off school blackboards so nicely, and command so much attention and admiration from the uninitiated, that teachers are tempted to indulge their pride in this respect, at the cost of much time that might be more profitably occupied. Besides, we have known to exist such gross ignorance of the essentials of this part of geography—the relative size, position, and importance of countries, as compared with each other and with the world as a whole—with great skill in map-drawing after the popular fashion, that we have grave doubts of the efficiency of the exercise as commonly conducted, for securing the object sought. We used to think it a bore to have to commit to memory the latitude and longitude of important cities and other prominent points (all of which were forgotten long ago); but that exercise, it strikes us, was sensible compared with the modern one of learning the multitude of arbitrary lines and measures which this or that book-maker chooses to call his “system.” The latitudes and longitudes might be remembered; and if remembered, would have some little value. The lines and measures are sure to be forgotten, and would be worth nothing if retained, after the maps had once been drawn. The basic idea of studying the contour of geographical divisions by the use of geometrical figures is a good one. It is unquestionably an advantage to the student to have countries roughly blocked out by such means; but that advantage is lost when the pupil is required to learn for every petty state a set of construction lines and measurements which begin and end anywhere, and serve only to afford guessing points from which the pupil is to determine *about* where the actual outline is to be drawn; while the number of their divisions and unmeaning relations is such that no one could hope to remember them all. The little book in hand is one of the least objectionable, simply because it contains so little. It may well be questioned whether that little is of any value: but the same question may be raised of such books generally; and since teachers *must* teach map-drawing—fashion is as inexorable in the school-room as elsewhere—it is an advantage to have the objectionable duty made as light as possible. To offset this merit, we have to complain of this book, 1st, that the construction figures in no way suggest the outlines of the countries to be drawn, since all save two (Great Britain and Italy) are rectangular; and 2d, that no regard is paid to the relative size of the countries in laying off the figures. For example, the basic figure for Asia is “a rectangle in the proportion of 4 to 3;” that for Europe is also a rectangle 4 by 3; but the one in the book is about twice as large as that given for Asia. The figure for New York, Pennsylvania, and New Jersey, is a square; the figure for Africa is also a square, but not quite so large. Since nothing is said of relative size, and no scale is given, the pupil is left to the natural inference that the Middle States are as large as Africa; or what is just as bad, he will perceive the correspondence in size and give no further thought to the matter. The sides of the general figures for the different maps are variously subdivided, and certain interior lines are drawn; but it is hard to tell in most cases why any other lines would not answer as well.

Specimen Page from "Diadem of School Songs."

THE SONG OF AUTUMN.

121

Music composed for this work.



1. { I have painted the woods, I have kindled the sky, I have brightened the hills with a
I have scattered the fruits, I have gathered the corn, And now from the earth must ber



glance of mine eye; }
verdure be torn. } Ye lingering flowers, ye leaves of the spray, I



sum - mon ye all — A - way! a - way! a - way! a - way!
a - way!.....

2 No more from the depth of the grove may be heard,
The joy-burdened song of the fluttering bird;
I have passed o'er the branches that sheltered him there,
And their quivering drapery is shaken to air.
Ye lingering flowers, &c.

3 I call on the winds that repose in the north,
To send their wild voices in unison forth;
Let the harp of the tempest be dolefully strung—
There's a wail to be made, there's a dirge to be sung:
For the lingering flowers, the leaves of the spray—
They are doomed—they are dying—away!—away!

About this book, the *Massachusetts Teacher* for August, 1869, speaks as follows:

THE DIADEM OF SCHOOL SONGS: containing Songs and Music for all grades of Schools, a New System of Instruction in the Elements of Music, and a Manual of Directions for the Use of Teachers. By WM. TILLINGHAST. New York: J. W. Schermerhorn & Co., 14 Bond Street.

A very pretty book indeed, and we are inclined to think a very good one. The author has displayed excellent taste in his selection of tunes and poetry, and his plan of instructing in sight-singing is a valuable feature of the work.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

NOVEMBER, 1869.

TECHNICAL EDUCATION IN EUROPE.



VI.—WÜRTEMBERG.

IN the first of this series of articles, it was announced that they would be compiled from the British Blue-Book containing the replies of the English ministers abroad to Lord Stanley's circular calling for information regarding the state of Technical Education on the Continent.

We make an exception of this article, for the reason that the State we have chosen for review is not represented in those reports. A very full statement of the educational system of Würtemberg, however, compiled from the reports of the Minister of Education, is given by the eminent English advocate of industrial schools, Mr. J. Scott Russell, in his recent work entitled "Systematic Technical Education." From that book we derive the material for this article, our space permitting us to give only the barest outline of the great and varied educational work done by this "model nation on a small scale," as Mr. Russell justly calls it.

At the head of the system stands the Polytechnic University of Stuttgart, which is designed to educate the highest classes of professional men. This institution provides five courses of instruction of one year each, divided into two branches, the Mathematical and the Technical. The former consists of two, and the latter of three classes. The Technical branch is subdivided into four schools: 1. For Architecture; 2. For Engineering; 3. For Machinery; 4. For Technical Chemistry, with the subdivisions, (a) chemical manufactures; (b) mines; (c) pharmacy. There is also a parallel class for the training of merchants. Besides these there is a course of general superior scientific and literary education for professors, lecturers, and men of leisure. The building appropriated to the division of practical instruction forms one of the finest piles of modern

architecture in Stuttgart. Besides the usual lecture-rooms and studies, there are a chemical laboratory, a physical laboratory, mineralogical museums, laboratories for constructive experiments, plaster-modelling rooms, mechanical workshops, wood-modelling rooms, rooms for drawing, a botanical garden, and an astronomical observatory. The staff of instructors, besides the director of the entire institution, consists of 24 head-masters, 9 under-masters, 11 assistants, and 7 private tutors. In the winter-term of 1865-6, there were in attendance 468 students and scholars, of whom 163 were in the mathematical and 305 in the technical division. In the summer-term, the number was 393,—149 in the mathematical and 244 in the technical division.

The college for the Building Trades, also in Stuttgart, is even more important than the University. At the University the scale of education is too high and broad, and its quality too ambitious for any but the highest members of any technical profession or trade. The more ordinary and numerous members of the trades and professions, who need quite as much a thorough practical training, find themselves insufficiently educated to enter the University, and without leisure to devote to it the long and continuous time necessary for its courses. A narrower course is wanted for foremen and clerks of works, and for directors and managers of small sections of works; and it is desirable that the humblest craftsman should be able to get such an education, as, with intelligence, diligence, and probity, may enable him to rise to distinction and skill in some one thing.

Appreciating the needs of these classes, some of the most distinguished directors of the Technical University represented to the Government the expediency of forming for them a new school, which was accordingly established. This school succeeded so quickly and so completely, that it became necessary to erect quite as large and handsome a building, and to employ quite as large a staff of instructors, as for the original polytechnic university. It is now one of the most remarkable and meritorious schools on the continent. The men whom it was especially designed to help in their trades are stone-masons, bricklayers, and carpenters, to be trained for future master-builders; lower-class builders to be trained for master-builders, constructors of public works, subterranean works, and reservoirs; constructors of water-works, river-works, and mill-works, and land-surveyors of the first and second class. The general workmen whose education it undertakes, are plasterers, tilers, roofers, joiners and carpenters, glaziers, turners, decorators, ornament sculptors, modellers, engravers, smiths, gold and silver workers, gardeners, and husbandmen. Its great merit is its perfect adaptation to the wants of each separate class. For young men who are much employed in winter and less in summer, it provides summer courses of study, and gives them vacation in winter,

and *vice versa*. It has classes in the early morning, the same at mid-day, and the same again in the evening ; and the hours of the different classes are so timed that the pupil may attend many or few hours of the day, and still obtain the instruction he requires.

This school is presided over by the most distinguished architect of Würtemberg, with no fewer than twenty-eight professors and masters under him. Systematic courses are provided for those who can go through the education required to obtain certificates of competence ; and their estimation of its value is proved by the fact that the school is crowded by exactly that class of men whom it was intended to benefit. The attendance the winter-term of 1865-6, was 587, of whom 475 were actual builders. During the summer of 1866 there were 115 pupils, 87 of whom were builders. Of the 702 different scholars in attendance during the year, 272 were between the ages of 14 and 17 ; 404 between 17 and 25 ; 17 between 25 and 30, and 9 were over thirty years of age.

Subordinate to this institution are the Higher Trade Schools, of which there were, in 1865-6, one hundred and eight, divided according to their interior arrangements into the following groups : (a) 4 finishing schools, with public rooms for drawing and Sunday and evening classes for trade ; (b) 11 finishing schools, with public rooms for drawing, and Sunday and evening classes for tradesmen and merchants ; (c) 81 finishing trade-schools with Sunday and evening classes, but without rooms for drawing ; (d) finishing trade-schools with evening classes but no Sunday classes ; (e) 2 trade-schools with Sunday teaching only ; (f) 6 pure drawing-schools with no further instruction. The attendance at these schools is about 9,000 pupils, with an average of one master for every twenty pupils.

The next class of institutions are wisely situated, not in the metropolis, but in the country. They are schools for country occupations and trades, and are called "agriculture and forestry establishments." There is, first, the College of Agriculture and Forestry in Hohenheim, with twenty-one masters. It is divided into the Academy of Agriculture and Forestry ; the farming school ; the gardening school, and special agricultural courses. There are under it three practical farming-schools in three different districts, and each school has under its care State domains comprising from 400 to 500 square miles. A large brewery is attached to one of these establishments. Subordinate to these schools are others distributed throughout the country ; and in addition to these are 523 obligatory winter-evening schools, with instructions in farming, free finishing-schools for farmers, evening meetings, lectures, etc., affording agricultural instruction to over 12,000 persons.

The Veterinary College at Stuttgardt is an institution for instruction in the anatomy, physiology, training, and diseases of animals. The school year of 1865-6, it numbered four head-masters, 4 assistants, and 57 pupils.

Attached to the college are hospitals for horses, cattle, and other domestic animals, in which 1,936 animals were treated ; and a smithy, in which 4,000 animals were shod.

The School of Art-workmen, with five masters and four assistants, gave instruction to 50 pupils, of whom 12 were painters, 18 were sculptors, and 5 were lithographers.

With such upper schools for the technical training of the people, it will be readily imagined that there must be a complete organization of schools leading up to them, otherwise these higher schools could not be filled with pupils possessing the requisite preliminary qualifications. There are, accordingly, eighty-eight academies and science schools, separated into the two divisions of classical and science schools, and a large number of elementary and industrial schools. In the classical schools there were, on the 1st of March, 1866, 4,565 pupils and 246 masters ; in the science schools there were 4,734 pupils and 143 masters. The classical schools are subdivided into gymnasiums and lyceums ; and the science schools into real schools and science colleges. Immediately below these are the public elementary schools, and establishments for private instruction ; and auxiliary to these are technical schools of the humblest kind, in which girls are taught to be housekeepers, and boys are trained to the simplest duties of life. These industrial schools number 1,450, and give instruction to over 50,000 pupils, the great majority of whom are girls.

The amount of technical education that the United States would have to provide, to rival in this respect the wise munificence of Würtemberg, may be estimated from the statistics we have given, taken in connection with the fact that the entire population of that unpretending State is little if any greater than that of the cities and villages clustered around the harbor of New York.

It is hardly necessary to add that the influence of such systematic and thorough education of the working-classes is of the happiest and most beneficent character, on both individual and national prosperity. In every country where technical education has taken root and had time to bear fruit may be found proofs of the rapidity with which increased intelligence brings increase in employment and remuneration. "From my personal experience," says Mr. Russell, "I may say that within the last twenty-five years I have seen large branches of commercial trade leave one country and plant themselves in another, because the workers of the one were educated and those of the other uneducated ; I have watched nations rising into importance and power in Europe by education, and by the order, organization, and efficiency which education bestows ; and other nations lagging behind and losing power by reason of their unwillingness to educate either the higher or the lower classes of their people."

OBJECT-TEACHING ACCORDING TO THE OSWEGO METHOD.

THE most vicious teaching that is done at this day is misnamed Object-teaching ; and it is done by teachers trained at Oswego.

We have received for publication from graduates of that institution (teachers noted—we might almost say notorious—for their denunciation of the old-fogy methods of teachers not of their school), “Model Lessons” fearfully and wonderfully made in violation of every rule of true teaching, not to say every principle of common sense. If they had been prepared solely to burlesque the genuine Object-method, they could not have done it more successfully. That they were prepared with the best of intentions, we have no reason to doubt ; while their general style is so uniform, and so consistent with the style of the head of the school, that we do not doubt their fairly representing the general character of the teaching done at Oswego. It would be impossible for so many different teachers to evolve from their individual consciousness, as a German would say, so many different “lessons” on exactly the same “model.” They must have been trained to do it.

We will illustrate what we mean by the most vicious of modern teaching, by giving entire a specimen “model lesson ;” and that we may not be charged with manufacturing our model, we will take one already in print—one of a series of “Object-Lessons for small children,” which have appeared in the *California Teacher* the past year. They are the work, we understand, of “a thoroughly trained graduate of Oswego,” gone to the Pacific Coast to carry thence the pedagogical New Light. In justice to the author, we will say that the “lesson” we select for reproduction is not wholly of her own devising. It constitutes a part of each graduate’s stock in trade ; and in its present form is perhaps an improvement on the original, which may be found on pages 68, 69, and 70 of her master’s “Lessons on Objects.” Here it is :

CHALK.

- (1) What is this? A piece of chalk.
- (2) Where does chalk come from? From the earth.
- (3) To which of the three great kingdoms does it belong? To the mineral kingdom.
- (4) Why? Because it is an inorganized substance dug out of the earth.
- (5) What is the meaning of inorganized? Without organs of life.
- (6) Name something that is organized, and tell me one of its organs. Animals are organized, and the heart is an organ.
- (7) Can you tell me what those places are called out of which chalk is taken? Chalk-pits.

- (8) Is chalk a natural or an artificial substance? Natural.
- (9) Why? Because God made it.
- (10) Tell me something else about it. It is opaque.
- (11) What do you mean? We cannot see through it.
- (12) Is it solid or liquid? Solid.
- (13) Why is it not liquid? It will not form into drops.
- (14) What is its color? White.
- (15) You have told me that silver is bright; is chalk bright, too? No, it is dull.
- (16) See how easily it breaks! Yes, it is brittle.
- (17) Take a piece in your hand, and smell of it. It has no smell.
- (18) What would you say if it had a smell?
- (19) We would say it was odorous. Well, *inodorous* is the word which means without smell; so chalk is—what? Inodorous.
- (20) Put it to your tongue, and tell me what you observe. It sticks to the tongue.
- (21) Rub it. It crumbles.
- (22) Yes: repeat in concert, "Chalk is crumbling."
- (23) Have you ever seen chalk used? Yes: it is used to write on the blackboard.
- (24) What quality makes it useful for this purpose? That of being crumbling.
- (25) Now, repeat in concert, all the qualities of chalk, and its use.
- Qualities*—Mineral, natural, opaque, solid, white, dull, brittle, inodorous, crumbling; it sticks to the tongue.
- Use*—To write on the board.
- (26) Now, children, I am going to ask you a question, but you are not to answer it to-day. I want you to think of it, and ask your friends about it, so that you may be prepared with the right answer to-morrow.
- (27) Is chalk found in the earth in the shape of these nice little sticks?

The last question lets us into the secret that the "nice little" object, which is the subject of this interesting lesson, is *not* chalk, but a compound of gypsum, paris-white, etc. That, however, is of no consequence, so long as such plaster crayons are popularly known as "chalk," and the purpose of the lesson is to lead the children to discover the obvious properties of the "object" in hand.

Chalk "comes from the earth;" of course it does. Where else would it come from—the moon? And it belongs to the mineral kingdom. The small children know that, at first sight; and they know, too, what the mineral kingdom is, for that is about the first bit of information they have to swallow—according to the Oswego method. The wherefore of its belonging to the mineral kingdom is most conclusive. "It is an inorganized substance dug out of the earth;" and all inorganized substances dug out of the earth (and no others) belong to the mineral kingdom—according to the philosophy of Oswego. But what happy "small children" these model infants must be to know such wonderful things! And what prodigies of wisdom they must be to be able to tell inorganized sub-

stances at sight, and to explain what "inorganized" means,—according to the Oswego system. Of course they know what it is to be "without organs of life!"

The 6th question is "hove in," evidently by way of variety, as the Western orator served his few remarks. The answer is pertinent and wonderfully comprehensive for a reply to a request to name something: so comprehensive, indeed, that it is slightly ambiguous, not to say inaccurate. But that is characteristic of the fruits of training according to the Oswego method. Its disciples use language with fearful looseness.

No. 7 is also characteristic, that is to say, utterly irrelevant. Either the children know the answer, or they don't know it. If they know it, there is nothing gained by the question. If they don't know it, they never could find it by any objective study of the subject in hand,—even when trained according to the Oswego method.

No. 8 is another characteristic question. Bearing in mind the composition of the subject-object, and its "nice" appearance, it is quite astonishing that a class of "small children" should so promptly discover it to be a *natural substance*—"because God made it!"

Answer No. 11 blunders on an observable property of the "object:" it is opaque. If there were a hole in it so that these penetrating small children could "see through it," they would, doubtless, call it something else, transparent, perhaps. No. 12 hits another property. No. 13 reads like a conundrum. "*Why is it not a liquid?*" A person not trained according to the Oswego method would certainly give it up. An ordinary child would be likely to venture the only reasonable reply—"Because it's *solid*," and think the teacher a dunce for asking such a silly question. But these model small children, having tested the matter thoroughly, know better—"It will not form into drops!"

That such obvious properties of an object as its color and brittleness and lack of odor should be noticed in an object-lesson of this sort, only serves to show how accidentally some things will get done in the right way. That the children should be called upon to "observe" with their tongues is not surprising, though somewhat exceptional, inasmuch as most of the "observations" made according to the Oswego method, are made with the ears.

No. 21 is legitimate. No. 22 is—say it again little ones, say it again *in concert*—"Chalk is crumbling!" But don't stop rubbing it or it will stop "being crumbling." The usefulness of this peculiar quality of chalk—"the quality of being crumbling" (crummable?)—will scarcely be questioned, provided one is willing to admit that chalk is crummable: but it is a funny observation which goes to show that this is *the* quality which makes chalk useful "to write on the board."

Now, while the small children are repeating in concert "ALL the

qualities of chalk" (*mineral!* NATURAL!! etc., discovered by studying a "nice little stick" of plaster), not forgetting its single use, let us ponder the question: How many object-lessons of this sort would it require to make a class of ordinarily bright "small children" as formally stupid and pretentiously ignorant as this trained teacher of teachers proves herself to be?

OUR POPULAR SCHOOL-BOOKS.

IV.—ENGLISH GRAMMARS.—(Concluded.)

KIRKHAM'S Grammar has long been a favorite in certain quarters: yet we do not admire the author's manner of presenting the subject in the form of lectures, and jumbling etymological and syntactical principles promiscuously together. There is much mere verbiage not only among the foot-notes, called "philosophical" and "critical," but also in the body of the work. Mr. Kirkham's fondness for Horne Tooke and for his mode of dealing with certain points, is, to say the least of it, a matter that should be less conspicuously displayed in a text-book for youth. It might be added also that the work has by far too many syntactical rules, which the exercises in syntax for correction are too few for thorough, practical instruction.

Mulligan's work, as already intimated, is strictly an English Grammar, keeping more closely to the subject than any other that we know. But it is not adapted to school purposes, unless it may be as a finishing work for higher classes. As a college text-book it might answer very well, were English grammar one of the studies embraced in a college curriculum. The author's treatment is systematic; but his classifications and his terms therefor are perplexingly numerous, difficult of remembrance, and of little practical value. As a whole, however, the work is thorough, and well expressed, not confounding words with thoughts, which is more than can be said of English grammars generally. Most teachers might be benefited by a careful perusal of the book; though but few probably could employ it advantageously as a text-book.

Parker's book is a peculiar production. It can hardly be called an infringement on Clark's copyright; and yet it looks very Clarkish. Like Clark's book, it begins, or, to use the author's characteristic word, "commences" with analysis, and toward the close (p. 273) introduces what he calls "Analysis by arrangement," which is simply Clark's diagrammic analysis without the circumambient lines. If we understand the author, he "has commenced with analysis as the basis of his system," because he

is confident that this course will "reconcile such differences of opinion" as some teachers seem to have "on some points,"—a very important consideration, we must say, for one who is about to make a text-book for youth. On page 14 he tells us, with refreshing coolness, that "we cannot teach syntax or even etymology on fixed and sure principles without analysis." What effect his method has had on his own syntax, may be seen in his book. He wants to tell us, on page 54, what *articles* are; and he says, "*An Article is the word THE, or the word AN or A, used,*" etc.; that is, he attempts to define a generic term by particularizing the individuals it covers. Several other specimens, showing the advantage of putting analysis before, and, we may add, above syntax, might be given. The following must suffice. "*The, an, or a, used before a noun to limit its signification, is an article;*" p. 130. "*Many is sometimes used before a A and a singular noun;*" p. 148. "The subjunctive mood is *only used* in a dependent clause;" p. 163. "Etymology and syntax are treated of together, for the reason that the former depends so much upon the latter that it is impossible *to even classify* a large number of words," etc.; p. 4. The reason given in this last extract for treating etymology and syntax together, namely, because the classification of words depends on their use, would afford as strong an argument in favor of treating orthoepy and syntax together; for who can tell how *bow*, or *wind*, or *conjured*, or *corps*, or many another word is to be pronounced, unless he knows how it is to be used? As a reason for commingling different subjects, it is, like much of the book, extremely crude. We say "crude;" for it would be difficult to find another text-book having so many rare and ill-digested remarks as this has. On p. 31, we find that "in an interrogative proposition the subject *always* follows the first word of the predicate; no inversion is allowed." Yet we say, "*Who goes there?*" "*How many men were present?*" To assure ourselves that these are what Parker calls "interrogative propositions," we turn to p. 19, and read, "An interrogative proposition contains a question or interrogation." This, though not a definition, shows that the foregoing sentences are what Parker calls "interrogative propositions." They also show the value, such as it is, of the above remark. On p. 32, he says, "Nor *always* follows the first word of the predicate in a declarative or an imperative proposition." He forgot that we can say, "*Not* a drum was heard;" "*Not* one of them was there;" "He *not* only was present, but spoke;" etc. On p. 110, we are told, "The relative pronouns are *who*, *which*, *what*, *that*, and *as*, and some compounds of the first three." Then, on p. 115, we find such crudities as these: "A relative pronoun (1) *must* (2) *immediately* follow its antecedent, and must (3) *begin* a relative clause, except that a governing preposition, infinitive, or participle is placed before *whom*, *which*, *what*, or *whose*, or a compound of

one of them." In illustration of the correctness of which, we give (1), "*Who* hath ears to hear, let *him* hear." (2) "*It* was the man who engaged him, *that* discharged him." (3) "We came to the *building*, at the side entrance of *which* he fell." Again, "A finite verb *never* precedes the [a?] relative." Example, "I *have what* you want." Also, "A relative clause, *unless very short*, should be separated from the context by commas." The length of the clause has nothing whatever to do with the matter. On p. 116, he gives the following original rule, illustration, and supplementary note: (The punctuation is his own.) "A singular collective noun as antecedent, requires a plural pronoun when separate or different action or state of the individuals is implied; as, The *assembly* were divided in *their* opinions. *We* were divided in *our* opinions [Query. Is *we* here "a singular collective noun?"] If *no difference* is implied, or if a majority decides for all, the pronoun representing a singular collective noun, must be singular and neuter." That is, if an assembly is *agreed* upon any measure, we ought to say, "The assembly are agreed in *its* opinions!" or, if a majority of them decide upon the publication of their sentiments, we are required by this rule to say, "The assembly decided to have *its* views made known!" On p. 118, he says, "The nominative relative is seldom omitted, and *only in poetry*." In proof of which, take the following sentence: "Parker's Grammar has more faults than () can be mentioned." Crudities like these, embodying nothing of any value at the best, are scattered up and down the volume on almost every page. In going over the book, we have noted an incredible number; and, what is the worst of it, their crudeness is unnecessary: they show that their author has not really tested them. They proceed, undoubtedly, from the author's desire to be precise. But zeal for precision is no apology for slovenly errors.

Pinneo seems to consider the forming of sentences, the filling of blanks, and the arranging of a set of given words into sentences, an essential feature of a grammatical treatise. He calls upon the pupil, for example (p. 12), to form a number of sentences on the model of "one which shall contain the noun *Mary* and a pronoun;" (p. 18) to fill the blank in sentences like "John came () the city," with an appropriate preposition; (p. 114) to supply the omitted modifying words in forms like "() trees fall ();" (p. 201) to arrange in a sentence words like "Cæsar's, then, was, object, what?" The same thing, or something very similar, may also be found, to a greater or less extent, in Clark's Grammar (pp. 47, 49, 50, 96, etc.), Greene's (pp. 42, 43, 52, etc.), Kerl's (p. 3 [where among other things he requires that a suitable pronoun be substituted for the words in italics in the sentences "The apple lay under the *apple's* tree," "The gun was brought, but the *gun* was out of order," the article not being included among the italicized words], 6, etc.), Par-

ker's (pp. 23, 29, 30, etc.), Quackenbos's (pp. 31, 72, 77, etc.), and Wells' (pp. 38, 42, 66, etc.). But such exercises are practically of no value. They are, for the most part, mere puzzles; or, if not puzzles, mechanical performances, teaching neither grammar nor composition. There is, however, a great difference among these authors as to the amount of space given to these exercises. While Quackenbos gives comparatively little, Pinneo seems to think it impossible to give too much.

There are many good points in Pinneo's, as there are in the other grammars in our list. But there are also some things that ought never to appear or to be inculcated in an English Grammar. Of these we have space for two or three only. 1. The giving of the form *You was*, *You was loved*, in the paradigm of the verbs *to be* and *to be loved*. Whoever may use this form, it is but a vulgarism at best. It would be quite as just and scholarly to encourage the use of *We was*, *Is you*? Pinneo, however, is not alone in encouraging this *you-was* vulgarism. Clark, in his paradigm of the verb *to be*, p. 124, gives *you was*; then, in a footnote, adds, with a degree of *nonchalance* bordering on impudence, "*Some good writers* use the plural form of the verb (*were*) in addressing one person;" just as though good writers generally used *you was*! 2. The parsing he gives of *mine*, in such a sentence as "Samuel has lost his book, but mine is safe;" p. 49. He says it "stands for *my book*, and, as such, is used as the nominative to *is* [Whether in the first or the third person he does not say], and the adjective *safe* qualifies it." He might as truthfully say that, in the sentence, "Samuel has lost his book, but John's is safe," *John's* stands for *John's book*, and as such is nominative to *is*, etc. The author of a grammar ought to know that *mine* is but another form for *my*, as *none*, in such a sentence as "Silver or gold I have *none*," is only another form for *no*, and that the two forms should be parsed precisely alike. 3. The condemnation of such idiomatic forms as "The canvas was made use of;" "He was lost sight of;" p. 151. These he pronounces "incorrect," and proposes instead of them, as correct English, the phrasing "Use was made of the canvas," "Sight of him was lost!" The special rule under which these examples are placed, reminds us of another of Pinneo's faults. In very many instances he lacks adaptation in consequence of being too general. Thus, the rule referred to reads, "Avoid the *incorrect* use of the passive with an object." So, p. 170, "A collective noun may be nominative to a singular or plural verb, according to the sense;" and, p. 180, "Avoid giving the wrong tense of the infinitive;"—valuable directions, no doubt, provided the pupil knows *how* to follow them!

Quackenbos's book shows, at a glance, that it is the work of a teacher; that is, of one who knows something about *how* to impart knowledge. It is divided into short lessons, followed by exercises enforcing the prin-

ciples taught. These exercises are practical, and generally very well adapted to the purpose designed. We think the author errs, however, in trying to do away with the neuter gender—the result of a misapprehension of what gender is,—and in introducing the rules of syntax in connection with etymological principles. There are many things in this book that are plainly improvements on other grammars; but there are other things which we cannot account for. Thus, the second person singular of the “Imperfect” Subjunctive of the verb *to be*, is given “If thou *were*.” This, we considered, at first, a mere misprint. But, on examination, we find it is not. The corresponding form of the verb *to rule* is given “If thou *ruled*, or *did* rule;” and of *to be ruled*, “If thou *were* ruled.” If this is right, we should like to see some of Quackenbos’s authorities for it. We cannot help adding that the treatment here given of the Subjunctive Mood is, in general, very unsatisfactory. On p. 114, the second person singular of the Imperfect Indicative is given as “Thou wast or *wert*.” *Wert*, we admit, is sometimes used indicatively by the poets; but, when used thus, it is by poetic license. After declining *whoever*, p. 65, “*Nom.* Whoever, *Poss.* Whosoever, *Obj.* Whomever,” he says, p. 66, “As antecedent, *whoever* is in the *objective* case!” Some of his dispositions of Infinitives are unaccountably curious. In the sentences, (1) “It is my duty to go,” (2) “For me to go would be wrong,” (3) “It is hard to go,” the infinitive, he says, p. 100, limits the meaning respectively of (1) a noun, (2) a pronoun, (3) an adjective! Quackenbos professes not to shun difficulties: instead of shunning them, he creates them, not unfrequently when it is perfectly unnecessary. Shall we illustrate? On p. 30, he defines (incorrectly) a collective noun to be “the name of a *body* of individual *living* objects,”—a definition that excludes such a word as *fleet*,—“The *fleet* have sailed up the Sound.” On p. 182, among “Difficult Constructions Explained,” he has the following: “A hundred [*collective noun*, always construed with a plural verb] people [object of *of* understood] may be killed, etc.; and on p. 225: “A *hundred* [of] swords were drawn.” In attempting—and it is only an attempt—to explain one seeming difficulty he creates another. He first defines a collective noun to be a *name* of a *body* of *living* objects. Then he gives *hundred* as an example of such a noun, though it is not properly a “name;” nor does it denote “a body,” any more than *twenty* does, or in fact any plural noun like *men*; nor yet, especially, in such a connection as “a *hundred* swords,” is it a name of a body of *living* objects. As to the author’s attempted “explanation” of the construction, there may be those that like it: we reject it as utterly untenable. The truth is, that, while the book shows in certain points much practical skill and good judgment, there is such an amount of erroneous teaching in it, that we should shun it as a text-book.

Wells' Grammar displays, on the whole, an unusual amount of study and original matter. His examples and illustrations are generally new. This gives his book a peculiar freshness and an individuality which are really pleasant. But his treatment of the subject is not the most practical. On the Subjunctive Mood, for instance, he is almost as bad as Parker and Pinneo. Where he ought to have but three tenses, he has eight. This proceeds, of course, from the lack of a clear conception of the nature and functions of this mood,—in which, we admit, he is far from standing alone—and this being the case, he cannot be expected to give others a clear or correct idea of them. But what we most find fault with is the fact that, throughout the volume, there is a lack of system in enforcing the principles taught and in testing the learner's knowledge of what he has passed over. Especially is there a deficiency in exercises of faulty syntax for correction. These omissions render the book far less practical than it might otherwise be. And yet the author's conservatism and impartiality, everywhere observable, please and attract. They indicate a careful and faithful comparison of views, and awaken a feeling of confidence which others, more pretentious and more positive, cannot command. We are sorry that books which indicate so much painstaking, originality, and general fairness, as this volume and Kerl's do, should be so ill adapted to accomplish that for which they are intended. But so it is. Originality and care are commendable; but the true test of the value of a text-book is its success in achieving the practical ends for which it is professedly designed.

To express in brief our view as to which of these books is the best as a manual to aid one in acquiring a correct grammatical knowledge and use of the language, we will say that we hesitate not to give the preference to Gould Brown's Institutes. Not that we consider the book what it ought to be in every respect; not that Brown does not here and there teach error; not that he is in all points up to the times; not that his definitions and arrangement are unexceptionable, or as nearly so as they could be; but that, while in these and other respects he can bear comparison with others, in his general plan as well as for the most part in the details, especially in his exercises for practical drill, he is so far in advance of others that the time and attention required in going carefully through this book would serve one to greater advantage than if devoted to any other English Grammar we have ever seen. If one has not the time to spare that would be necessary to carry him carefully and thoroughly through this book, the next best thing for him, all things considered, is Bullions' Grammar. This is unquestionably an excellent—nay, as grammars are now made, a superior—work; but it is less full and less instructive, on the whole, than Brown's. Bullions', too, is more suitable perhaps for a younger class of pupils.



*SECRET SOCIETIES AND DUELLING IN GERMAN
UNIVERSITIES.*

THE origin of what we would call secret societies in the German Universities, and what the Germans call *Corps* or *Verbindungen*, is almost coincident with the foundation of the first German Universities in the 14th century. They have represented, as far as we can trace their history, the different territories of the common Fatherland, and have always been of a strictly sectional character. Students belonging to the same territory associated with each other and formed leagues, to which they gave the names of their "smaller fatherland." Thus we met and still meet with the names of Saxons, Westphalians, Vandals, Hanoverians, Hanseates, Holsates, Frisians, Rhenani, Thuringians, Nassovians, Hessians, Brunswickers, Silesians, etc. Their badges consisted of the coats of arms of their sovereigns, to which the territorial colors were added. Thus the Saxons wore and are wearing still two different blues and white; the Westphalians, green, black, and white; the Vandals (Mecklenburgians), red and yellow; the Rhenani, blue, red, and white; the Nassovians, blue, white, and orange, etc.

As in the greater political arena, so in the narrower sphere of university-life, these "territories" were in a perpetual warfare with each other, only their feuds were not fought out in battles, but in single combats, in *duels*. All these associations were completely organized by constitutions and by-laws, and had officers, who were formally elected and who often wielded great influence and power. It happened not rarely that they took out formal charters from their home-governments. The central power of the German Empire took no notice of them, till in the beginning of the present century they interfered with the political questions of the day, and became formidable enough to make Austria, Prussia, and Russia tremble.

About the internal life of these associations in the former centuries, we have very little information. Still we know that they were a great obstacle to literary progress and culture. They perpetuated the mediæval rudeness which had already begun to disappear from public life. They were the natural supports and nurseries of that feudal tyranny which has always been the bane of Germany. No wonder that the territorial governments in the sixteenth, seventeenth, and eighteenth centuries countenanced and even encouraged their wild habits, and connived at the many acts of high-handed violence that were constantly perpetrated by the members of these leagues. There was a time when academic jurisdiction almost exclusively rested in their hands. Even the Professors

were subject to their discipline, and had to appear before their courts. Students not belonging to the leagues (we should call them now "*neutrals*," but the Germans name them "camels" or "savages") were almost pariahs in this peculiar social organization, some of whose strange privileges have been continued even to the present time.

The different Universities up to the present century had very great immunities; they formed States within the State, and were governed almost independently of the General and State governments. The highest authority was vested in an elective officer (one of the Professors), who was called *Rector* or *Pro-rector* (the king himself being the rector), with almost royal power, to whose insignia belonged the purple and the sceptre, and who bore the title "Magnificus," or "His Magnificence." We know that Rector *Lange* in Halle with his own hands took a student, who had been drafted into military service, out of the ranks, in the presence of the Generalissimo, Duke Leopold of Dessau, and that the latter, although surrounded by the Prussian army, suffered the humiliation, and lowered his hat when Rector Magnificus announced that he was acting as the representative of His Majesty the king. The whole jurisdiction over students was in the hands of the University; no civil magistrate was allowed to summon or to arrest a student. The Academic Senate, elected by the four Faculties, had the law-making power, while the executive power was wielded by the Rector, and the judicial power was in the hands of several Professors of the juridical Faculty. The Professors, as such, were what they are to-day—mere lecturers, without any disciplinary power whatever. The students dictated more or less the course to be followed by the Professors, and came to the lecture-room according to their own pleasure; they might hear the lectures of what Professor they chose. Recitations were out of the question; examinations took place only at the end of the three or four years' course, and then only for those that applied for the degree of Doctor. The conduct of the students outside the lecture-room was nominally under the supervision of the Academic Senate and the Rector, but was, in fact, in the students' own hands.

The leagues in every University constituted a community, which assumed the management of all affairs relating to the students' life; they even arrogated to themselves authority over the *citizens*, who generally obeyed the behests issuing from these informal courts. Each society delegated one or two representatives to a "General Assembly," called *Senioren-Convent* (Convention of Seniors¹). This *Senioren-Convent* wielded an almost absolute power, to which all the students belonging to

¹ This was the name of the Presidents of the different societies. Each University had its own *Senioren-Convent*, but frequently the different conventions corresponded with each other.

no Society (and these were always by far the majority) had to pay implicit obedience. The *Senioren-Convent* established a written constitution called the "Comment," in which the duties and rights of the students were minutely laid down. They summoned students and even citizens before their bar, and whoever refused obedience was declared "out of the pale of the academic community." Such an outcast might be offended or outraged by any one with perfect impunity; every intercourse had to be broken off with him. The very house where he lived had to be shunned by all students; the consequence of which was, that such an unfortunate subject could find lodgings only with the greatest difficulty. The academic authorities were powerless against the *Senioren-Convent*. A hint of the latter would rouse up all societies, and in fact all students. If the Academic Senate would not yield, a "secessio in montem sacrum" would be decreed, in imitation of the plebeians of ancient Rome. The students then left the town *en masse*, resorting to the neighboring villages, and leaving the lecture-rooms without a single hearer. Generally, all the trades-people, bakers, butchers, grocers, followed, and the city was left without food, without trade, the few inhabitants starving in awful loneliness. The end of such difficulties was regularly an embassy on the part of the Senate, often His Magnificence himself, a second Menenius Agrippa, at the head, repeating to the students the fable of the Stomach and the revolting limbs of the human body; but without any effect, unless the "refractory Senate" promised respect of the rights of the "Plebs." Such secessions happened as late as 1830 and 1831. If they were ineffectual, more serious measures would be resorted to, the last example of which is the renowned "Göttingen revolution" of 1831, when the students deposed all authorities, elected a Mayor and a Rector of their own number, and compelled the Academic Senate to do whatever they wished.

At the beginning of the present century, the "German student" had somewhat profited by the general advancement in culture and refinement; but everywhere mediæval traces might still be discovered. The garb of the student at this time was still altogether fantastic. High, stiff boots, called "*Canons*" (*Kanonen*), went up high over the knees, with tops wide enough to receive a giant. Enormous spurs, weighing several pounds, graced the heels. What was visible of the inexpressibles, consisted of white or yellow stout deer's skin. In lieu of a coat, the student wore a garment like that of a mediæval knight, with enormous collars. Round the waist and shoulders hung a scarf displaying the colors of the "society;" an enormous broadsword dangled at the left; the right was armed with a pipe of superhuman size, the bowl holding with ease a quarter of a pound of "Killikinick." The head-dress consisted, at festive occasions, of a gorgeous knight's cap, with plumes, again displaying

“the true colors ;” on ordinary occasions, however, it was a cap (with the colors, of course), placed almost on one ear, and of so minute a size that it required great practice to balance it on the head. A huge ribbon round the breast displayed in large characters the “single combats” (duels) of the individual, showing the names of every antagonist. The face was often marked by deep scars.

Such was the exterior of the German student, as it is in the memory of persons still living. But among these bears, who speedily became tamed in professional life, names are found which, like Gotfried Herman, are shining as stars of the first magnitude in the heavens of literature. Their wild revels did not prevent them from their proper pursuits. While the ribald songs of their companions were yet ringing in their ears, their spirits were already deep in conversation with Plato and Aristotle.

It was in the year 1810, at the time of the deepest humiliation of Germany, when the Prussian government undertook the task of regenerating German life from its very root. The “Universities” had a prominent place in the debates on those things which needed a thorough reform. It was the good fortune of Germany that this whole question was left to the decision of William von Humboldt, Stein, and Altenstein. Never was a nation’s fate in the keeping of nobler spirits, nor was ever a question intrusted to more competent minds. There were two opinions in the Council. The one opinion maintained that all the privileges of the Universities ought to be abolished, and that the students should be subjected to a rigorous discipline. The lectures should be assigned by the Faculty ; the diligence of the students was to be controlled by recitations and examinations, according to the English plan ; the outside discipline was to be controlled by the regular authorities. Only *literary* societies should exist under the control of the Faculties. Duelling was to be strictly prohibited and severely punished—even with death-penalty. The other opinion was for the maintenance of the old freedom of the students. It was true, they acknowledged, that the old system had many inconveniences. Many young men fell as victims of the unbridled freedom of a student’s life. Many were wasting their time and health, accustoming themselves to pernicious habits, and becoming incapacitated for the serious duties of life. Some were crippled or even killed by wounds received in duelling, a habit that was incompatible with a well-regulated society. But notwithstanding all these drawbacks, they maintained the self-government of the students, because the evils caused by liberty were best cured by liberty itself. The proposed guardianship and pupilage would soon convert these noble and generous youths into slavish tools. All higher aspirations of the human soul were awakened by self-decision, not by constraint and compulsion. Science without liberty was only a dead possession, burdening instead of freeing the mind. Where

one out of a hundred young men had been ruined by a loose life, ninety-nine had gone through an invaluable school. It was far more desirable for the State to lose one or two citizens out of a hundred, with the rest braced by the stormy air of the Universities, than to create a sleepy and listless generation, caring only for worldly and selfish ends. Duelling should be restrained as much as possible ; but the time for the total abolition of a habit so deeply implanted in the nation, was not yet come. The students should be allowed to take care of this question themselves, and they would find better remedies against it than a regardless and cruel enforcement of the existing laws, which never before had been enforced. It was not even desirable to suppress this habit without replacing it by other institutions ; it would be like holding out an encouragement to the cowards, who now were subdued and stigmatized, but soon would raise their heads. While now personal courage and untarnished honor were the standards of public esteem, far less desirable qualities would soon take their place.

In the councils of the Government the latter opinion prevailed, and it was concluded to curtail the ancient freedom of the Universities only so far as it was absolutely necessary. But one new measure was introduced, which, as they believed, would counterbalance many of the evils springing from the previous system. This was a very rigorous test of the ripeness of those who wished to become students of a University. The examinations for admission were made so formidable, that only a perfect preparation in all branches of science would be the stepping-stone to the University. The Government judged that *a very high development of the mental qualities would be the best safeguard against all those temptations the student could meet with.* All German governments, Austria alone excepted, followed sooner or later the lead of Prussia, and time has abundantly proved that they were right. While in Austria everything was sleeping and going backward, the human mind has achieved its proudest triumphs in the North of Germany. We may say that German science would not be what it is, if in the year 1810 other councils had prevailed, and the Universities had been reorganized according to the "English" plan. And we may further say, that without these measures the *political* situation of Germany would be now as hopeless as it was during the latter part of the last and in the beginning of the present century. No Bismark could have arisen in an Austrian University : no army of Sadowa would have been ready to vindicate the eternal rights of the nation.

We had to go back so far, in order to make the present condition of the "secret societies" in German Universities perfectly intelligible to American students. In another article we shall try to describe the life within a secret society, and its code of honor, as it is observed in general, and especially in connection with the practice of duelling.

THE VENTILATION AND WARMING OF SCHOOL-HOUSES.

IV.

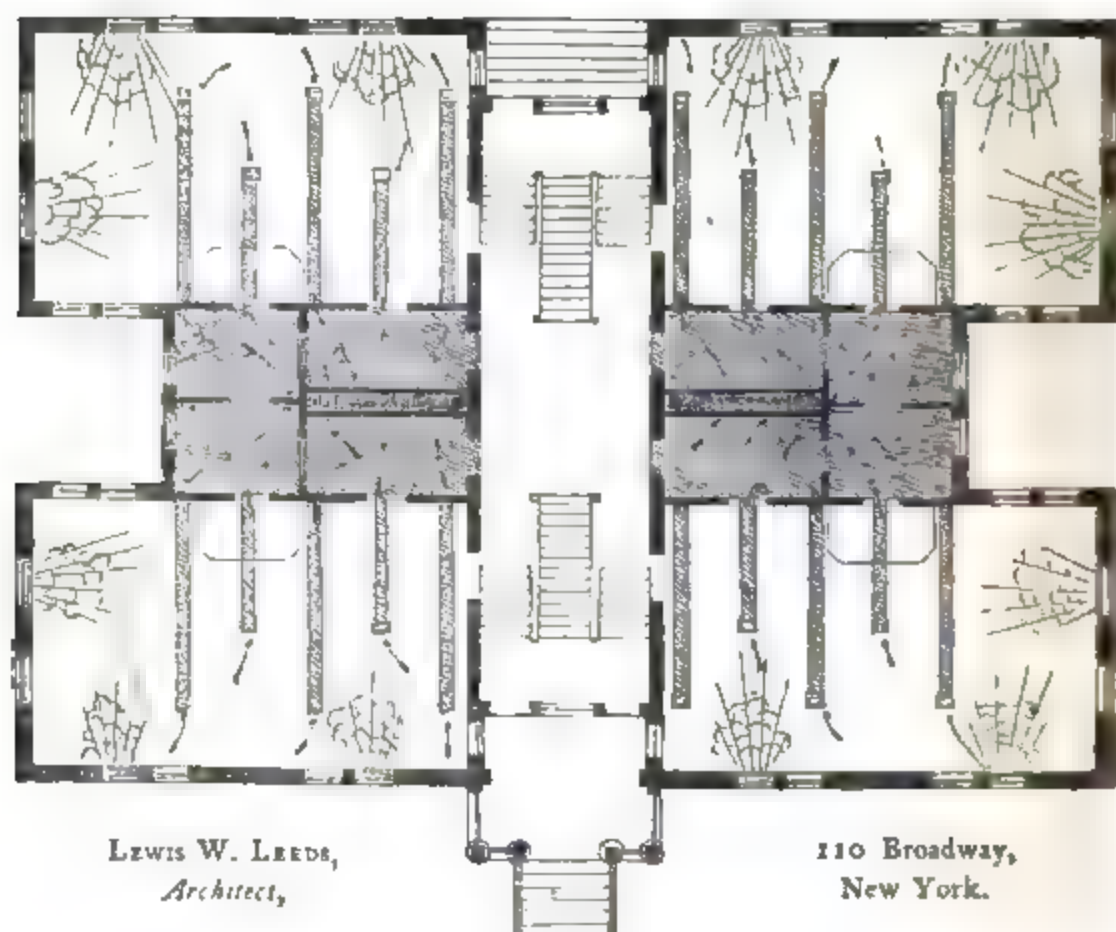
SUNSHINE, the great motive power of atmospheric movements, is *the* motive power of natural ventilation. It is also Nature's great disinfectant; and if there is one place more than another in which its influence cannot be dispensed with, that place is the school-room.

From the disregard of sunlight—direct sunlight—so noticeable in the construction, not only of school-houses but dwellings, it is to be feared that few persons realize how soon the walls, carpets, and other porous objects in a room become foul by the absorption of effete matter exhaled from the bodies of the occupants. A free circulation of air is of great value, as well for removing these exhalations before they can be deposited as for supplying fresh air for breathing. But mere change of air is not sufficient: a more powerful agent is required. Every lady knows (unfortunately) how soon direct sunlight fades the bright colors of her carpets and upholstery. Too few appear to know that the same blessed agent is equally energetic in dissipating the fever-breeding, consumption-causing air that pervades and clings to her carefully shaded furniture. We want fewer heavy curtains and closed shutters, and more sunshine in our public and private apartments.

Many attempts have been made to secure the thorough ventilation of buildings by currents of air produced by artificial means, to the entire neglect of natural ventilation; but always with disappointment. Ventilating engineers are apt to commence by calculating first how much each person will inhale or exhale in a minute, and then by making what seems to be a liberal allowance for the contamination of the surrounding air, endeavor to provide for the requisite supply of pure air. The results obtained almost invariably fall short of what is actually required. Especially in mild or close weather do these artificial arrangements fail. Then nothing short of the full sweep of the external air will answer. For rooms in which large numbers of persons are to be collected, it is a primary requirement that there be openings on every side, so that any outside currents of air, from whatever direction, may be made use of.

The subjoined plan is offered as a suggestion for the arrangement of a school-house, so that every class-room shall have one or more windows on each of its four sides, and a circulation of air between it and the adjoining class-room. Of course the necessary modifications to adapt this plan to the requirements of special locations will suggest themselves to every intelligent architect. The great point we have in view is to urge the

necessity of having every class-room open to the outside air on every side, so that it may be easily sunned and aired ; and to show how these advantages can be inexpensively obtained. Objections may be made to our arrangement of windows because of the great amount of light that would enter at them. That of course could be regulated by means of blinds. The direction of the light that strikes the pupils' books can be regulated in the same way. Blinds should be used on all the windows, because they are far superior to curtains, in admitting a free circulation of air, while excluding the direct rays of the sun ; and the blinds should be *green*, because that is the color most agreeable to the eyes. At intermissions, and before and after school, the blinds should be opened to admit direct sunlight, the purifying effect of which is absolutely indispensable in keeping the school-room wholesome.



SUGGESTIVE PLAN OF A SCHOOL-HOUSE DESIGNED TO ADMIT LIGHT AND AIR ON EVERY SIDE OF EACH CLASS-ROOM.

The evil of allowing the air of one class-room to pass into an adjoining room—a great defect in many of the school-buildings lately erected in Philadelphia and Brooklyn—was explained in a previous paper. It is entirely obviated by having each room communicate directly with the open air on all four sides. This plan also renders available for ventilation, as was noticed above, every variation in the currents of the external air. There are many times, however, when the air is quite still, and the

difference of temperature between the external and internal air is not sufficient to secure thorough ventilation through the windows. Artificial means must then be employed for removing the vitiated air. The system of flues for this purpose, connecting with the ventilating shafts between the wardrobes (the shaded portion of the interior), will be readily understood by those who have read the preceding articles of this series.

To accommodate the prevailing opinion, which requires a large collecting-room in every school-house, the partitions on one side of the hall may be omitted in the third story, and the recess at the sides enclosed (by a Mansard roof, for instance), the form of the ventilating shaft being changed so as not to interfere.

It is proposed that the heating of the rooms in cold weather shall be effected by stoves or coils of steam-pipe radiators placed under the windows, so that the incoming fresh air shall be warmed as it enters the room. As we have considered this part of the subject in previous articles, we would refer the reader to them.

The only objection that we can see to our school-house thus overflowed with sunshine and fresh air, is that the children would so luxuriate in these essentials of physical health and vivacity that they would be as restless and mischievous as the boys and girls of an old-fashioned country school kept in an over-ventilated log-house. They would need a very different treatment, it is true, from that required to spur into activity the poor, pale-faced, automatic dolls that go through the routine performances of many of our public schools : yet we must confess a strong liking for the *spirit* of the country school-boy.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION X.—Carbon, Boron, and Silicon.

THE first member of this group is the only one of them that is of special interest to the experimenter. Boron is rarely seen even by the chemist, and the only one of its compounds that is widely known is borax. Experiments with it are more appropriately considered in connection with the metals. Silicon is as rare as boron. In combination with oxygen it forms silica, better known as that most abundant of simple minerals, quartz.

An interesting experiment affording pure silica in a gelatinous condition is the following :

Exp. 115. Prepare a small flask with a cork, and long glass tube bent

twice at right angles, so as to lead to the bottom of a glass jar capable of holding 5 or 6 inches of water. In the tall glass pour mercury to the depth of an inch.

Put into the flask a mixture of equal parts of powdered fluor-spar and powdered glass, little more than a tablespoonful in all, and add sulphuric acid enough to cover the rest. Put in the cork and tube, and let the outer or long end of the tube dip below the surface of the mercury. Fill up the tall jar with water. Apply heat to the flask, which of course must be on a suitable stand. Fluoride of silicon, which is a gas, passes through the tube and through the mercury; but is decomposed by contact with the water, so that each bubble as it rises is enclosed in a little sack of pure silica in a gelatinous condition.

The element carbon is known under the forms of diamond, graphite or black-lead, and coal. Carbon and hydrogen unite to form the great bulk of all so-called inflammable substances. The most interesting compound of carbon to the experimenter is carbonic acid. It is prepared easily and without heat, from some carbonate, generally of lime or soda. Common marble is the cheapest.

Exp. 116. Supply a pint bottle with a cork, and a tube bent twice at right angles, similar to that employed in the chlorine experiment. Let the tube lead to a large jar, which should be supplied with a loose cover of pasteboard or thick paper. Put a few bits of marble in the generating bottle; add water enough to nearly or quite cover them, and then pour in sulphuric or hydrochloric acid until the effervescence is quite brisk; then cork the generating bottle, and the gas will accumulate in the receiving jar. A single ounce of the marble yields something over a gallon of the gas.

Exp. 117. The amount collected in the large jar may be tested at any time by lowering a lighted taper into it. The flame is extinguished as soon as immersed in the gas.

Exp. 118. Take a wide-mouthed jar of any capacity, from a quart to three or four gallons, and set a lighted taper in the bottom. Fill a jar of equal capacity with carbonic acid gas, and cover it with a piece of pasteboard or a wooden block. Take up the full jar and hold it in position to pour into the one containing the taper. Do not remove the cover too soon or too suddenly, otherwise the currents of air established by the taper, or by your motions in handling the jar, may force the current of gas in a wrong direction. The evidence that the gas is poured from one jar to the other is the extinguishing of the taper.

Exp. 119. Another way to show the superior weight of carbonic acid is to extemporize a balance by suspending two large pasteboard boxes at opposite ends of a stick. The boxes had better be equal in size. The stick should be suspended by its centre, and the whole nicely balanced.

Having prepared an amount of gas sufficient to fill one of the boxes, pour it carefully in. That the weight of the carbonic acid is greater than that of the air, is made manifest by the sinking of that arm of the balance to which the gas has been added.

Exp. 120. Prepare some lime-water as in *Exp. 10.* Dilute a little of that prepared under those directions by adding about half the bulk of water. Let the gas from the generator pass through the lime-water: a milkiness ensues at once, owing to the formation of carbonate of lime; but if the bubbling of the gas is allowed to continue, the liquid will again become clear, because water holding the gas can dissolve the newly formed solid.

Exp. 121. Boil the clear solution obtained from the last experiment. The gas held in solution is expelled and the carbonate of lime reappears.

Exp. 122. Heat in an iron spoon a bit of potassium until it ignites, and lower it into a jar of carbonic acid. The metal takes to itself the oxygen, and the carbon of the gas is deposited as a black powder.

The remaining carbon and oxygen compound, carbonic oxide, affords neither very brilliant nor satisfactory experiments for the class-room. It is a poisonous gas. It burns feebly with a pale blue flame, and gives but little heat. The best exhibition of its peculiar flame is afforded whenever fresh anthracite coal is added to an already brisk coal-fire. The carbonic acid formed in the lower portion of the mass is deprived of one equivalent of its carbon by the upper portion; and the gas issuing through the coal at the top is carbonic oxide, which ignites and exhibits its characteristic flame.

Experiments with the compounds of carbon and hydrogen afford, for the most part, only exhibitions of ordinary combustion. These, although interesting and instructive, are so well described in most elementary works on chemistry, that it is not considered necessary to introduce them here.

With this section ends the experiments in the non-metallic elements.



POLYGLOTT INSTRUCTION.

BEFORE the Columbian discovery, North America was resonant with numerous aboriginal idioms.

The stream of colonization opened by Spain, England, France, Holland, and the foundation of establishments by the Danes, Swedes, and Russians, superadded the Indo-European stock of languages to the crowd of dialects already spoken on the continent.

From all parts of Europe, and from the coasts of Asia facing our Pacific

States, pour every year upon these United States hundreds of thousands of human beings.

Statesmen predict the expansion of the American republic to the north, where nestle a million of French people, and to the south, containing millions of descendants of Spaniards intermixed with other branches of European nationalities.

Our relations of all kinds with foreign nations, across both the Atlantic and Pacific basins, are rapidly increasing. If we take into consideration our peculiar position between the continents, we shall see that our commercial transactions must, year by year, grow to vaster and vaster proportions.

It behooves us then, at the threshold of this era of national interchanges, to examine how we are to meet the novel want of linguistic knowledge, which is precipitated upon us at home and from abroad. How shall we confront these audacious invasions of our Anglo-Saxon propriety? Shall we oppose to these encroachments merely the force of inertia, trusting that the foreigners who flock to our shores and settle in our midst will, in the course of time, leisurely amalgamate with the rest of the population? Have we motive to hope that foreign nations will soon open their eyes to the unforeseen advantages of a thorough acquaintance with the English language?

Let us not depend upon such slow power of assimilation. Let us not entertain such a deceptive idea of our neighbors' necessities. Let us show our usual spirit of enterprise in this almost unexplored field of education, and resolve to remove the difficulties that may at first beset our way, as steadily as we have hitherto conquered the physical obstacles which retarded our forward march across the continent.

What do you want us to do?

The work before us is twofold. In the first place, the English-speaking portion of the community should be induced to study foreign languages and master them, so as to occupy the vantage ground; and the American-born would occupy it if he were enabled to address strangers in their respective native tongues. On the other hand, as a fit counterpart of what is accomplished in our behalf, a systematic course of instruction should be organized in the different States to impart, at the earliest opportunity and by the most scientific processes that are available, a thorough knowledge of English to those masses of foreign-tongued people who overcrowd our cities and are spread in large aggregations all over the land.

It may be objected that, if we go to the trouble of learning foreign languages, we shall thereby encourage the cultivation of strange idioms and of a stranger spirit of alien institutions among immigrants. Do they not, some may say, abdicate every distinctive feature of their former nationality

by renouncing their allegiance to their native land, and, in its stead, accepting American citizenship, with its consequences and its responsibilities? It is alleged, besides, that we are a busy nation, and should waste no time except upon the most elementary and indispensable branches of learning; let those foreign pretenders take care of their idiosyncracies! Says another fault-finder, we are already overtaxed, and no public moneys should be distracted for such an object; if our adopted citizens wish to acquire our language more rapidly, let them consecrate some of their own means to that effect.

To these objections one might thus reply:

We want a mastery of foreign languages for social purposes, for literary attainments, for business operations. The generalized usage of those tongues cannot endanger for a moment the supremacy of the English idiom. Its own solid mass will preserve it intact from the possibility of disintegration. It will no doubt receive accretions from all sides; for the composite character of the language dictates the policy it follows, to incorporate, and not to reject, through a false bashfulness, all the words susceptible of adding a new expression or form of thought to its vocabulary.

Through the hundred voices of publicity we invite men of distant climes to the enjoyment of our liberties and to a share of our labors. But when, on their arrival, they speak of retaining and perpetuating that most precious boon, the speech that cradled their infancy, then our national pride protests. Our agriculturists may stimulate variety in the matter of potatoes, but talk of diversity of languages, and our national uniformists must crush it in the bud.

No congregation of individuals have more room and more wealth at their command than this nation. The centuries lie before them, full of rich promises. They can afford leisure. Let our people employ a part of their means and of their time for a higher culture, for a more generous enlightenment of the faculties. In this era and home of extemporized fortunes, what boy knows what the veiled-face future keeps in reserve for him?

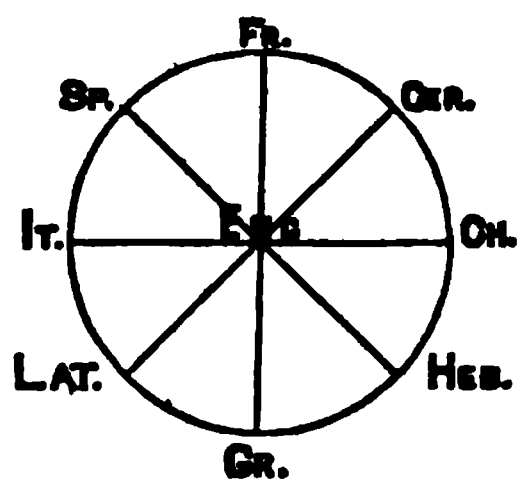
Changes, to be promotive of their intended results, must be gradual.

If it is considered desirable to establish uniformity of language in the country, an intermediate route, leading to that object, must be adopted. The sooner the newly created citizens of the republic are taught the national language through the medium of their own tongue, the quicker will they be enabled, thanks to this lingual naturalization, to participate in the duties of American life.

The realization of these views should be a reciprocal work of international companionship. To render more harmonious the relations of all our citizens, so intimately blended by interest and juxta-habitation, we

must educate ourselves to the language of the new-comers, and educate them to a popular understanding of the national vernacular.

It is admitted that our population is of a mixed linguistic complexion—that in our expected extension north and south we shall be obliged to incorporate many more millions of foreign-tongued people—that, in our commercial *rappports* with Europe and Asia, we encounter the mother-tongues of a considerable number of our citizens, deeply rooted in the soil. In order to see what we have done to adapt ourselves to the ever-changing national status, we will at this stage investigate to what extent polyglott instruction has been prosecuted, and examine what methods of study would conduce to the most satisfactory results.



The accompanying cut, representing a wheel with its hub or central point, partitioned by eight spokes or lines of separation, will make what I have further to say more transparent to the mind's eye. A vertical line divides the circle into two halves, right and left. A horizontal line separates it again into two parts, the upper and lower. The two diagonal lines furnish four additional points, right and left, upper and lower. These eight points joined to the central one are to serve for my demonstration, as paper posts for locating the languages necessary to form a complete course of ancient and modern languages, to be studied more or less in our schools.

As we view this matter from an American stand-point, the central position by courtesy as well as by right is accorded to the English. The right-hand side is occupied by languages which appear to have little or nothing in common in their origin or construction; and the left-hand, by idioms closely correlated with one another. Of the two hemispheres, the lower is reserved for the ancient, and the upper for the modern languages.

Commencing with the ancient and basic languages, I place on the ground-floor the Hebrew, Greek, and Latin; I therefrom ascend, in the direction of the hand of a watch, to the Italian, Spanish, French, and German. The eighth spoke or blank space I would assign to the Chinese or some other language, at the option of the student.

These eight tongues, radiating to and from the English, constitute a full-orbed cycle of the languages that are either spoken or extensively studied in North America, at the present day.

To pass for a scholar and assume to be a perfect American linguist, one should know them all. However, on account of our present material and intellectual development, and to accommodate this integral plan of lingual study to the exigencies of the grade and age of the pupil,

our educators may cut off here and there a portion of the language-bearing wheel.

For instance, by setting aside the lower part of the circle, you omit the ancient languages altogether. If you practise a further emendation at the sides, you exclude the Italian and Chinese. After this reduction, there would remain but four languages, the English, Spanish, French, and German, which, according to my notions, should enter the curriculum of every well-conceived system of American education. The French, Spanish, and German, as a trident, with the English as a handle, would give American boys a practical superiority over those of the other maritime nations.

At what point of the wheel will it be best to begin? At the centre or at the circumference? And at what point of the latter?

There are several stations from which you may take your departure: the historic, the philosophical, the logical or fundamental, and the practical. The parties interested must decide between these different orders of procedure, according to local requirements or personal predilections. One might select French in Louisiana, German in Wisconsin, Chinese in California, Spanish in Texas; any of them, indifferently, in such cosmopolitan cities as New York and San Francisco.

Where can the acquisition of languages be pursued? and at what period of life?

Youth seems to be the most appropriate period for learning languages, inasmuch as the vocal organs of children are more supple, more easily brought under mechanical control; and for the stronger reason, perhaps, that their minds have not yet borne the deep impress of business anxieties, so contrary to the mental calmness required for such pursuits. Therefore, the study of languages might be essayed in the first degrees of the school, the proportion to be augmented as the scholar is promoted to higher classes; or, if you please, polyglott departments might be established entirely separate from the ordinary grammar-school organization.

With Americans, time is the golden factor of existence. They sum it up in three words: Time is money. In spite of this lucrative axiom, new studies have been constantly introduced into the prescribed course, and none taken out. Why? Simply because American civilization has become so complex that it needs all this multiple knowledge to sustain its advance. Hence, the directors of public education, far from being able to suppress any subject, have, on the contrary, been compelled to seek room for fresh studies. You may depend upon it, henceforward, the American people will never be contented with a mere knowledge of reading, writing, and ciphering.

In my estimation, we should not reduce the number of our studies

in the schools, but diminish their bulk, teach the essentials, and leave details and minutiae to be acquired later.

The science of teaching must not halt to witness without following the progress of the rival sciences. A current of electricity should run through its methods. The laws of grammatical analogy, or correspondence between different idioms, should be resorted to in order to condense to a few general rules the mass of particular rules now taught and repeated in every national grammar, just as if each language were the only language on earth.

In application of these laws of analogy, if I had the five European languages to teach, I should compile a list of the sounds heard in each language, sift them carefully, and prepare a table showing where, in their phonology, these several idioms coincide, and where they diverge.

Not taking into account superfine distinctions, the English comprehends thirty-six sounds. The Italian has no sound not found in English. The French yields to our exploration six additional sounds, and the Spanish and German one, the same for both. In all, we find forty-three sounds. Now, drill a class on this phonic chart, and, tell me, do you not, by this simultaneous exercise on all the sounds of the five languages, save the time that would be spent on each, and avoid the confusion natural to the disconnected presentation of five alphabets?

After having graduated from the sounds, the pupil is led to their written representation. There, we present anew a comparative view of their calligraphic and printed peculiarities.

Attacking the study and memorizing of words when we have mastered the sounds which compose them and the letters by which they are rendered visible, it is in our power to invest that study with the most pleasurable interest by a constant *rapprochement* of their resemblances, and by an incessant repetition of their contrasted dissimilarities.

After the sounds, letters, and signification of the isolated word have been exhibited, the instructor is brought to treat of the articles of the grammatical code by which the changes and syntactical combinations of the words are regulated. One single definition of the parts of speech, instead of a fivefold one, would suffice. The declension of nouns or its absence, the simplicity of the conjugation of the verbs or its intricacies, are themes which could not fail to afford a wide field for comparison and an incentive to thought.

Provided with the proper knowledge of the sounds, letters, etymology, and rules pertaining to the several languages, the student is ready to essay the practical work of conversation, the highest point of the edifice, the successive layers of which have been previously laid down. The scholars go round from one class-room to another, and familiarize their ears and

tongues with the tone, accent, and that seeming continuity that exists in the foreign idiom.

Through the method indicated here, or some other equally comprehensive, the labor of learning this fivefold brace of languages could be broadened into general grammar and shortened at the same time.

This must not be thought a fanciful sketch of an impossible design. The languages exist, and are taught separately here and there. Hebrew is studied in theological schools and by Israelites; Greek and Latin in colleges and universities; Italian but little, and mainly by private students; Spanish more than formerly; French and German in the higher grades of public and private schools; Chinese somewhat, and English everywhere. In San Francisco, they have separate schools denominated Cosmopolitan, in which four modern languages are taught with a success attested by conscientious examinations.

Among the felicitous reforms to accrue from polylingual education, is the general introduction of phonetics, so inexplicably neglected by teachers of all grades—the exclusive employment of the Roman typographical alphabet for all the languages taught, the broader and safer basis it would afford for the rational changes in the pronunciation and orthography of words, and the more facile means of learning English through and through, afforded by such frequent recurrence to its sources.

Whether as a merchant, a traveller, a navigator, an artist, a teacher, or a politician, the American has everything to gain, nothing to lose by a knowledge of languages.

The great diversity of languages prevailing in the world, though the organs that produce them are of a similar construction, shows a purpose somewhere not to obliterate these distinctions as long as they do not impair the unity of the race. None of the leading nations of Europe would think of abandoning their own idioms out of convenience or from a sense of inferiority, for another which might present some special advantages. And why should they? How weary would existence become if there was but one people, but one language, but one dressing pattern, but one literature! English can never acquire the precision of the French, or the sweetness of the Italian. Why should we be deprived of these invaluable qualities because it will cost some little fatigue to possess them.

Issued from an insular people, we have inherited a strong one-sided view of things. In learning foreign languages, we will likely shake it off and become more tolerant of national differences of all sorts. Our education must breathe fresh inspirations as from the height of our Western peaks. It should be as broad in its foundation and as varied in its culture as the continent itself.

ETYMOLOGICAL REVERIES.

BY PROF. F. L. O. RÖHRIG.

II.—*The English Word "WHITE."*

WHITE is that color which reflects the most light. *White* coincides with the very idea of light and brightness; and bright, brilliant, etc. are, even in common language, epithets applied to denote a certain degree of *intellect*: a *bright* intellect, a *luminous* thought, a *brilliant* talent, an *enlightened* mind, to throw *light* on a subject, to draw *light* from science or instruction, to *elucidate* a subject, and so forth. In the various languages this coincidence goes still further.

In the English word *white*, the *h* is not an essential letter; it is the same *h* which appears in the words *who*, *which*, *what*, *where*, *when*, and *which*, in the Scandinavian languages, stands before the *w* or *v*, and has a similar import with regard to the letter *w*, as *h* in Greek has in relation to the letter *τ*.

Thus the form to be considered is rather *wite* than *white*. Now, every one knows that the *e* at the end, is here nothing but a termination which easily disappears, as, for instance, in *whitish*. Accordingly, the genuine form of the word under consideration would be *wit*, which already leads us to and even coincides with the substantive *wit*, the verb *to wit*, the adjective *wit-ty*, the word *wit-ness*, which refer to the ideas of *knowing*, *understanding*, and so on.

An acknowledged fact, exhibited in kindred tongues, and often even in one and the same language, is the frequent interchange of the letters *t* and *s*, as we see in the English *better*, German *besser*; English *water*, German *wasser*, etc. Thus, *wit* (= *white*) reappears in the German *weisz* (white), and, at the same time, the German *weise*, and the English *wise* and *wis-dom*; then again in the German *wis(s)en* (to know), *weisz* (I know). Here again the ideas of the color *white*, and of *understanding*, *knowledge*, *wisdom*, coincide. The intermediate idea, by which the color *white* and knowledge or wisdom are connected, is doubtless that of *perception of light*, or *the faculty of seeing*. And this we really see also in the Latin *vid-eo* (to see), (where the radical syllable *vid* = *wit* = *wis*); and with the dropped initial labial, *v*, *w*, in the Greek forms *id-on*, *id-o*, and *eid-o* (to see), *eid-os* (image)—where the interchange of the sounds *i* and *ei* is the same, which we remark in the comparison of the English *wise* and the German *weise*. Also *id-ol*, *id-ea*, *id-eal*, and others are to be referred to the same head. They all point to *seeing*, to *light*, and *enlightenment*. The same we see in a word of a very different root in the

Greek work *leuk-os* (white). *Leuk* (the radical syllable of *leuk-os*, as *os* is nothing but a termination) is in the great system of the kindred groups of the Indo-European family of languages, intimately related to the following expressions: Lithuan., *lauk-anan* (eye), Hindust., *lauk* (to see), English *look*. Also in the French *luc-arne* (primitively, slit or kind of loop-hole where the light penetrates as through an *eye*), the German *Lück-e* (an interstice, interruption), *loch* (a hole), the English *lack*.¹ Then again, the root *leuk* reappears in the German verb *leuch-ten*, the English *light-en*; the substantives *leuch-te*, *lich-t*, English *ligh-t*, the Latin *luc-eo*, also *lux* = *luc-s*. We might see the same root in the Greek word *log-os* (word, reason, understanding, etc.), unless the Greek *leg-o* (I say) be akin to it, and, as reducible to the fundamental ideas of *pulling down*, *establishing*, etc. = to *lay*, German *legen* (related to the Latin *loc-us*, etc., and giving rise to derivatives like *lage* = *law*, *leg-al*, *lex* = *lec-s*, etc.), should come in to interfere with our "REVERIE."

One of the words expressing *white* in Latin, is *candidus*;² the final syllable *idus* being a mere termination,—*cand* alone is important for our purpose. It evidently refers to *light*, just as we saw was the case with the Greek *leuk-os*, etc. *Cand* reappears in *candor*, in the Latin *in-cend-o* (= the German *zünd-en*),³ the English to *kind-le*, the substantive *cand-le*. In *cand-id* (*candidus*) it refers to *veracity* and *truth*. This may be sufficient to show that whole series of ideas in their connection one with another.

III.—*The German word "FRAU."*

In German, the generic term for female is *Frau*. The same word in Gothic is *frau-ja*, intimately related to the Sanscrit *pri-ya*, wife (with an interchange of the labials *f* and *p*), to the German *Brau-t*, spouse, and likewise connected with the English *bri-de*, the French *bru*, the German *Bru-t*, *brüten*, etc., all referring to *Ardent Desire*, *Fervent Love*, and being of the same radical as that of the German *Bru-nst*, *Bra-nd*, *bre(n)-nen*,⁴ the French *brû-ler*, *em-bra-ser*, *bra-sier*,

¹ This catenation seems to extend still farther; as, for instance, to the English verbs to *leak*, to *lack*, etc., also to words like *lake*, Latin *lacus*, etc.

² The reader will know from the study of Roman antiquities, why also the word *candidate* comes from *candidus*. Moreover, as we would remark here in passing, the origin of our word *ambition* finds likewise its explanation by the customary *ambitus* of the candidates.

³ Even the German word *Zunder* (= Eng. *tinder*) and the Latin *cin-is*, French *cendra*, etc., etc., are connected with it.

⁴ The English to *burn* is likewise to be referred to the radical *Br*, in the sense of *heat*, fire. *Burn* is the same as the German *brennen*, the French *brûler*; and it is to be remarked that the letter *r* has the peculiarity, inherent in its nature, of being often transposed; as, for instance, German *durch*, English *through*, etc. The radical *br*, or *fr*, by a manifest *antiphrasical* tendency, similar, for instance, to that apparent in the two antagonistical meanings of the English word *fast*, etc., expresses also the absence or negation

the German *bra*-ten, *brü*-ten, *brü*-hen, *brau*-en, *brau*-n, French *bru*-n, English *brow*-n, the French *fri*-re, and so on. *Bru*, *brul*, with the meaning of *beloved*, seems to be implied even in the proper names *Bru*-tus, *Bru*-no. And as every one of our readers acquainted with the theory of the permutation of consonants will easily recognize the primitive and fundamental identity of the roots *fr*=*pr*=*br*, he will likewise observe that the ideas of *love*, *good*, *desire*, or *volition*, are constantly implied in those very radicals which thus shadow forth, as it were, the conception expressed by the generic term for the female sex in its various relations, and more especially when viewed in its essential loving quality, as *wife*, *spouse*, etc. The ideas alluded to reappear in the Sanscrit *pri*-ya, *wife* (radicals *pr*), *pri*-tis, *love*, *pri*-ta, *beloved*; in the French, *pri*-ser, to *desire*, *pri*-er to make known one's *desire*; in the Latin, *pre*-cor, in the English, *pray*, *prai*-se, in the Latin, *pre*-tium, French *pri*-x, English, *pri*-ce; since things of a high *price* or things dear refer again to desire and love, so that even the word *dear* is used for *beloved*, a *dear* friend meaning a *beloved* friend; and since, also, the Latin *carus* (dear) reappears in *caritas* (charity), and the French *cher*, of a high *price*, *dear*, likewise means *beloved*. The same radicals *PR* or their equivalents *FR*, reappear with the same meaning in the Slavonian *pri*-atel, friend; in the English, *frie*-nd, the German *Freu*-nd. And there cannot be the least doubt that, in the words *friend* and *Freund* the radicals *fr* express the idea of *loving*, when we consider that the Latin word *am*-icus (friend) comes from *am*-are (to love), and the Greek *fil*-os (friend), from *fil*-eo (to love), and the Arabic *hab*-bib (friend) from *hab*-b (to love), etc. The *fr*, with a vowel sound, reappears also in the German words *fri*-en, to marry, to look out for a *wife*, and *Frei*-er, a *lover* with a view to marriage. The Venus of the Scandinavians was *Frei*-a, the goddess of love; and *freu*-en in German, which means to rejoice, *Freu*-de (joy), *fro*-h (joyful), *frö*(*h*)-lich (gay), belong evidently to the same family of roots; also in Turkish the word to *rejoice* is in an analogous manner expressed by *sev*-in-mek, which is a derivative form of *sev*-mek, to love, so that *sevinmek* has a double meaning; 1st, to *love* one's self; 2d, to rejoice. Now, we have in English the word *free*, in German *frei*, where the radicals "*fr*" refer again to the idea of *love*. For, *freedom* is the state or condition in which one can do what he *loves*. And has not *freedom*, indeed, for its synonymous term, *lib*-erty, Latin *libertas*, where the root *lib* again confirms our assertion? For, *lib* refers to *love*, as seen

of *heat* or *fire*, as in *freeze*, *frozen*, *fresh*; the German *frost*, *frieren*, *frisch*: the French *frileux*, *froid*, *frais*: the Latin *frigidus*; just as a derivative from the Latin *calidus*, Romance *caldo* (hot) is likewise used to denote the *absence* (or *negation*) of heat, in the Germanic tongues, under the forms *cold* (English), *kalt* (German), etc., primitively derived from a correlative polarly opposite term, as the Latin *gel*-id-us.

in the Latin *lib-et*, *lib-enter*,¹ in the German *lieb-en*, the English *lov-e*, the Slavonian *lub-it'*. The radicals *pr* with a vowel-sound expressing *love* and thence *desire* (as has already been demonstrated) are met with in the same sense in *Pri-apus*, also in *Pri-amus*. *P(eh)ri*, in Persian an angel, as well as the Greek *p(e)ri-steros*, *p(e)ri-stera* (dove), are evidently to be referred to the same idea. *P(e)ri* stands for *pri*, a fact patent to all acquainted with linguistic science; and *p(e)ri-stos* is to be viewed as a mere variation of *pri-stos*, to which the comparative and augmentative endings, *-eras*, *-era*, are added. *P(e)ri-steros*, *-era* (viz., *ornis*), designates *dove*, or the animal which, as it were, loves more or the most; that is, pre-eminently the *loving* animal.² This assertion becomes still more confirmed by the same word in Latin, viz., *columba*. *Columba* is the equivalent of *coluba*. For *mb* and *mp* may, in many instances, be reduced to a purer and more genuine primitive form, viz., a mere *b* or *p*, as in *cumbo*, *cubui*; *lambano*, *elabon*; *rumpo*, *ruptus*, etc.; [the modern Greeks also write this very *mp* in order to express the *b* of other languages]. That *co* in *columba* is the same as *con*, *cum*, no one will call into question, who considers such words as *co-existing*, *co-æval*, *co-incide*, etc. This "*co*" means *together*, *mutually*, *each other*. Thus, *columba* is *co-LUB-a*. It remains to consider *lub* in this word. It is the same as *lub* in *lubenter* for *libenter*, *luhet* for *libet*; it is the same as *lub* in the Slavonian *lubit'* (to love), and thus equivalent to *lieben*, to love. So we see that *peristera* (for *pri-stera*) finds its elucidation in the analogous Latin word for *dove*, viz., *columba* (instead of *co-lub-a*). This *lub* reappears under the form *lup* (as *p* and *b* are interchangeable) in the word *vo-lup-tas*, where again the ideas of *love* and *joy* coincide. *Voluptas* evidently stands for *vol-lup-tas*: *tas* being a mere termination, we need to consider only the parts *vol* and *lup*. *Vol* refers to *good* and to *will*, *desire*; so we see it in *vol-o*, in the German *wol*, *wo(h)l*, the English *well*, the Latin *velle*, etc. And in German, *voluptas* is indeed expressed by *Wohl-lust* (written *Wol-lust*); *lust* is desire, love, like *lup*. Accordingly, *voluptas* (*vol-lup-tas*) implies desire of love, or a good, joyful, happy love. And here we may mention that, where uncontrolled, *voluptuousness* is called *libertinism*, and he who indulges in it, *libertine*, where "*lib*" reappears, as above.

¹ *Lib-enter* is in English translated by *will-ingly*, in French by *vol-ontiers*, where, again, *love*, and *will* or *desire* become convertible terms.

² Here, by the way, we may notice the Latin words *pri-atinus*, *pri-scus*, referring to the *good*, *old* times, or at least primarily implying a happier or better state in a *former* period. In this sense, *old* is often used, as every one knows; and the Latin *antiquus*, in such expressions as "*nihil antiquius habeo*," etc., evidently alludes to *preferring*, *liking*, *loving*. Even in the very words—Latin, *pri-or*, *pri-mus*, Greek, *pro-tos*, *pri-n* (the preposition *pro* = the Latin *ante* of *antiquus*), the same fundamental idea seems to lie at the bottom.

MODERN LACK OF EMOTIONAL CULTURE.

WE all agree that there is a hiatus in education which mere intellectual culture cannot fill up. We admit that the age's efficient spur and motive is neither love, nor glory, nor any single virtue, but the putative parent of these, gain. We behold our very manufactories avoided as specious deceptions "made for sale," and the name of our central factory become the system for what is base and "Brummagem:" we see embezzlements, defalcations, bubbles, organized unions for the doing of murder, co-existing with mental attainments more than sufficient for some virtuous ages; we see this growth of evils growing greater in the deterrent (?) presence of a hitherto unequalled growth of intellect, and an accompanying clash and strife of class interests resulting from that enlarged education which, according to our theory, was destined to reconcile these diversities of interest, widen the bonds of amity, and obliterate the prejudices of classes. We find, in short, in the presence of the full swing and sway of intellect, the benevolent emotions of humanity, weak and worse than impotent, an irritating shame and a reproach.

If, then, our system of education, our processes of brain-tillage will not help the emotions to fructify, why not direct our husbandry at once to the emotions themselves? If we were as free to examine and to choose here as we are in the raising of our crops, should we not discern the necessity for two fields of cultivation? That the human energies have two fields of exercise—a mental and an emotional—is surely no novel announcement. We are cultivating one of these exclusively. And though our next, and let us hope, our last resource in this direction, will be an attempt to manure this field with moral philosophy, no emotion, good or bad, will ever germinate therein, for all our toil and ingenuity. Socrates and Plato and Zeno and Seneca and Paley will not help us much. The first four brought but scanty harvest to the ancients themselves, who were more emotional than we, and who, in their susceptibility to the influences of physical beauty, degenerated into a final nature-worship and torpid pantheism, just as we, from an exclusive trust in mind and neglect of emotion, are petrifying into rationalism: while Paley is Science in modern dress, and only better than Seneca, where supported by Christianity, which, unhappily, he makes a feint of supporting.

But what is Christianity about? it may be asked. I answer that her field of operation is the heart and the emotions, that Christianity can make a man holy, more holy than any agent ever made man; but she cannot make holy a half-man, a brain, the mere intellectual moiety of humanity, however that moiety be magnified by science. But there is your field of emotions (it is replied) quite open to Christian cultivation: does this field demand other and better culture? Would that our Chris-

tian brother would stand firmly on this ground, nor shift it! remembering, only, how Christianity never proposed to supersede culture either of intellect or of heart; how it comes in aid principally of the latter, not commencing it (culture of the heart), but prerequiring that the soil be not stony nor hopelessly weedy, and foretelling the vain issue in either case. St. Paul could open Christianity to the Athenian, whose emotions, cultivated and not dead to nature's beauty, had darklingly discerned an unknown God somewhere under and supporting this "nature's beauty." That Greek soil was ripe for his sowing, and the Fathers of the Church were the harvest. Come, let us prepare the soil, my brother; see that our sons entering their college and college chapel have their emotions accessible to "whatsoever things are lovely" as well as learned; that the bounty of nature has not been wasted, but the lily of the field duly esteemed, and the beginning of love within their heart. Without this preparation, be assured the Christianity which they learn will be, at most, a brain-ful. That poor moiety of humanity we have dwarfed them to, the Sciential, will only take in and digest that poor moiety of Christianity, the Doctrinal: it will be of the reason rational, a formula to be stated in Algebra.

What hinders that we get to work at once? Nature, yet patient, is waiting with her help, with sunsets through forests grand with pine, with keen ether-cutting crescents and star-clusters—with the beauty of fields ripe with bread. Holds she not fair forms of ferns, weeds, and flowers, mosses, minute lichen, and outlines unsearchable of travelling cloud and mountain?

To learn the language of these forms, and, most of all, to feel the deep mystery of their beauty, in common with our fellows, high and low, to whom nature gives these as a birthright of humanity—to hold, at least, this one common ground of human pleasure in companionship with all men, rich and poor, and realize this common tie of brotherhood that embraces us, will do more to associate the human family than all the fulsome flattery of the age, which insults the working-man with transparent mendacities and adulation he intuitively smiles at and despises; which widens, instead of closing, the social gap. Burns, in his poetry, found out that he and his class had in possession

"Joys that riches ne'er can buy,
And joys the very best."

And found also that "Edinburgh gentry," for all their public recognition, frank, affable, familiar as our own public talk to our working-classes, would still keep their vaunted lion at arm's length, and had no more, but much less, sympathy with him and his pursuits than had the poor poet Yowe he left at home in Ayrshire.¹

¹ "The Void in Modern Education, its Cause and Antidote." Macmillan & Co.

NOVEMBER, 1869.

PAST, PRESENT, AND FUTURE.

WHEN the AMERICAN EDUCATIONAL MONTHLY was established, six years ago, its scope and character were fixed in accordance with the popular theory which rates the common-schools as the great educators of the people, and regards the multiplication and improvement of these nurseries of learning as the surest and speediest way of elevating the nation's general culture. In pursuance of this theory, and despite its unrestricted title, the MONTHLY was made essentially a Common-School Magazine. Designed to circulate almost exclusively among those engaged in the common-school work, the professional wants and literary tastes of that class of educators largely determined the policy it chose to pursue. By the advocacy of measures calculated to elevate the personal and professional standing of common-school teachers, increase the number and efficiency of the schools, and improve the character of school-books and appliances, together with a vigorous opposition to everything tending to corruption and quackery in the conduct of the schools, the MONTHLY has labored earnestly and not unsuccessfully in its chosen field of effort. The honorable reputation it has enjoyed for character and commanding influence proves that the policy it has pursued has been by no means an ill-advised one. Yet we are persuaded that a much less restricted policy would have made it much more influential for good. Our mistake has been the common one of trying to advance the work of popular education by efforts originating in and expended upon the elementary schools, independent of the sympathy and co-operation of the higher departments of education. With all due deference to the nobly earnest men and women at work in the common-schools, we may be permitted to believe that the laborers in this field are not, as a class, best fitted to grapple with the educational questions before the public for solution.

These questions rest, in the main, in a higher plane of thought and experience than is occupied by the great body of elementary teachers. The demand is for a higher, broader, and more practical culture than the nation has hitherto enjoyed ; and it is little else than absurd to expect the wisest determination and direction of this culture at the hands of those whose individual culture rarely exceeds that of the moderately educated. The inspiration and better counsel must come from above, from the laborers in the higher fields of education and the wider fields of practical life. The great need of the day is some means of bringing these higher forces to bear upon the solution of the questions of educational policy now agitating the country : that is to say, an educational magazine that shall not be devoted solely or mainly to primary education.

The habitual silence of those who would seem to be most competent to give a high character to our educational literature has been remarked by many. The cause of it we believe to be the lack of a suitable medium through which they may present their views to the public,—an educational periodical at once wide in scope, high in tone, liberal and critical in spirit, and read by the class whose attention is worth securing. The few first-rate educational articles published among us, reach the public in such a scattering way, and, generally speaking, command the attention of such limited audiences, that their cumulative effect is comparatively, if not absolutely, small. Could the best of such contributions be brought together in a worthy magazine, and supplemented by such others of like merit as would be called out by them, their combined influence would be incalculably great and beneficial.

Believing that such a magazine is not only needed, but, if established, would enjoy the sympathy and support of the genuine friends of education the country over, and further, that a suitable foundation for it exists in the *AMERICAN EDUCATIONAL MONTHLY*, we have during the past year gradually widened the *MONTHLY*'s scope, elevated its literary character, and introduced such other changes as seemed requisite to enable it to become what its name imports, the organ and representative of the best educational thought of the country. These improvements we propose to continue as fast and as far as our friends shall give us encouragement. The table of contents of our present number indicates the ground we have entered upon and propose to cultivate. It covers the entire field of education. If sufficient encouragement is offered by the friends of higher

education, the size of the MONTHLY will be largely increased to afford room for a greater variety of matter, and especially to allow the republication of the best foreign contribution to the literature of education.

The same liberal yet fearlessly aggressive spirit that has marked the MONTHLY heretofore will continue to characterize it. It is our purpose to have discussed in these pages, by the most competent persons whose pens we can engage, every question of general interest that shall arise in the various departments of education. The freest expression of opinion consistent with justice and propriety will be not merely suffered but encouraged in contributors, our desire being not to propagate any views or theories of our own, but to call out and lay before the world the views and opinions of any and every one who shall have ought of value to contribute to the general stock of educational thought and experience. Fearless and impartial criticism of school-books by competent writers, regardless of the friendship or enmity of authors and publishers, will continue to be a special feature of the MONTHLY; while an incessant war against charlatany, corruption, and quackery in everything pertaining to education will characterize its general management.

THE "INTRODUCTION" OF SCHOOL-BOOKS.

SINCE the publishers of the MONTHLY announced as in preparation a series of articles entitled "How School-books are Introduced," we have been favored with many material and very acceptable additions to our stock of facts relating to the matter. Already we have positive knowledge of a multitude of instances of corruption involving the integrity of school officers of every grade from the highest to the lowest. We know of manipulations submitted to if not invited by school superintendents and other scholastic servants of the public, with pecuniary profit to themselves and worse than pecuniary loss to the community, which, if made public, would stagger the popular faith in the purity and self-sacrificing philanthropy that such officers so generally arrogate to themselves. Indeed, if the legitimate good done by these (in their own estimation and in the estimation of the unenlightened public) chief movers of the educational wheel must be accompanied by so much illegitimate evil, the country might well dispense with their services altogether.

But such an heroic cure is not required. It is not necessary to burn the house, as the mythical Chinaman did, to get rid of the fleas. Simply by making corruption *unsafe*, it may be possible to put a stop to very much of the maladministration of school affairs which now prevails because it may be indulged in with impunity. From an innocent beginning in presentation-books to teachers and school officers, special discounts on first orders in case of introduction, and so forth, there has grown a system of bribery, direct and indirect, that is at once a scandal to "the trade," a burden to the book-using public, and a grievous annoyance to honest teachers and school officers. It is a system which makes teachers and parents the abject slaves of publishers, when the direct contrary ought to be and naturally would be the case. It creates stupendous monopolies, based on collusion with "rings" more or less extensive and powerful. It establishes "uniformity" at the expense of freedom of private judgment on the part of teachers and parents. It supplants books of merit by those that are worthless; and enables "push," audacity, and unscrupulousness to control everywhere, converting the public schools into public mills for the grinding of private grists. There is no enterprise more meritorious or useful than that legitimately employed in the production and sale of school-books. The enterprise that we oppose is of a vastly different sort. It is wholly illegitimate. It thrives by chicanery, corruption, and fraud. It works injustice to the trade, perverts instruction, corrupts school officers, and swindles the public.

Our expectations may be voted Quixotic by those who have no knowledge of the evil in question, and extravagant by those who know its magnitude; yet we hope sooner or later to make such an *exposé* of the prevailing system of "introducing" books,—as it is euphemistically called,—as shall at least greatly modify the business. All that is required, we believe, is simply to open the eyes of the public to what is going on around them; and that we shall attempt to do.

Of course the greater the number and variety of facts at our command, the more searching and effective the *exposé* will be. To those who have already furnished us with facts well authenticated, and to such others as may hereafter favor us in like manner, we would simply say that the information so supplied will be used in such a way as shall not betray its origin, or make anybody but ourselves responsible for its publication.

SCHOLASTIC ALMSHOUSES.

THE intellectual Oliver Twists of New York will be a numerous body, should the desire of the *N. Y. Sun* ever be gratified. Here it is :

“Our position is, that the Public Schools are, like prisons, and the police, and courts, and the rest of the machinery of government, only defensible on the ground of necessity. We do not undertake to feed and clothe at the public expense children whose parents will do that for them, but only those who have no parents, or have been abandoned to misery and crime. Just so, in our opinion, should we provide public schools for children who cannot obtain schooling elsewhere, and for no others.”

Since the Great Exposition at Paris, the British House of Peers has also arrived at the conclusion that public schools are defensible on the ground of necessity ; it is not, therefore, a very advanced position for an American journal to take in the year 1869. Here it has been usual to sanction State education by appealing to the laws of Economy and Justice. Public schools are cheaper than the prisons, and the police, and the courts, with which they are linked in the above extract. It would be difficult to point out any considerable part of the community whose interests are not advanced by them. Even the wilfully childless, and there are said to be many such, should hesitate to condemn a system calculated to provide them with able and efficient protectors in their old age, and should contribute with delight their quota toward the intellectual instruction of their future guardians. As to any other class, enough in numbers to be noticed, which would annul the right of children to education by degrading it into a gift, we know not where or that it exists.

Despotisms can afford to be unjust in this particular : we cannot. We appeal to our miners, and agriculturists, and mechanics ; every few months we call them out of their mines, or fields, or workshops, to help elect our rulers. In all countries men are expected to govern themselves individually : here they use the right to govern themselves collectively also. This is the speciality of our Republic, and to abandon this position would effect the speedy destruction of our form of government. On the contrary, in order to maintain our institutions, it is requisite that our people should be educated, so that they may perform discreetly the duties devolving upon them. If there be any Charity in the matter of Public Schools, it is easy to prove that the wealthy are the recipients of it, rather than the needy. For, it is manifest, that the first dereliction of

duty on the part of our rulers, the people, would affect property ; and it is certain that if the State did not provide education, self-interest would compel property-holders either to attempt to change our form of government, or to devise some other method of public instruction.

Let us hope that this and like efforts to degrade our public schools into almshouses will be futile. There is little reason to fear their success. On the one side are ranged the laws of the State, all the churches save one, and the fathers and mothers of a quarter of a million of children. On the other, the *New York Sun*, and the small party it is supposed to represent. It is a second edition of the Atlantic Ocean against Mrs. Par-
tington. That a public press can afford to taunt indirectly any portion of its patrons with being public paupers, is its own business, with which we have no concern ; but we have a stiff objection against permitting the principals and teachers in our public schools to be degraded from their high positions, to that of Intellectual Turnkeys and Overseers of the Poor.

A NEW BRANCH OF EDUCATION.

A SHORT time ago Peter Cooper gave to the Institution which bears his name, and which has already proved a genuine benefaction to the working-people of New York, a new gift of twenty thousand dollars, to be expended in procuring a collection of the elements of machinery, and in organizing a Department of "Mechanical Philosophy and Mechanism" for the instruction of young mechanics in the construction and working of machinery. All methods of transmitting or modifying motion are to be represented in this collection by *workable* models. Cranks, escapements, cams, gears, pulleys, etc., with their simple combinations, are to be brought together as fast as they can be made, classified, and arranged with reference to easy examination, as are the books of our large libraries. The instruction will be given by lectures, as in chemistry and physics. The use to be made of the "elements" will be apparent to every mechanic. The simpler forms of motors, water-wheels, water-column machines, steam and hot-air engines, etc., will form a part of the collection, and afford subjects for instruction of the most practical and useful sort.

We shall watch this venture in a new field of education with the liveliest interest. It deserves to be imitated in every large city and manufacturing town in the country.

CORRESPONDENCE.

EDUCATION IN THE SANDWICH ISLANDS.

THE common people of ancient Hawaii lived by sufferance, not by any "inalienable right." They enjoyed their food, drink, huts, the air that they breathed, and their lives, simply because the caprice or desire of their king or chiefs did not prompt the forbidding of them. The chiefs had at their disposal the property and lives of all beneath them in rank, while they in turn had to yield any or all of these to the demand of their king; and woe to him of tardy foot, when his superior bade him move.

A demand for men or means from the king was succeeded by greatly increased demands upon each lower grade, until it reached the lowest huts. These demands were promptly and tremblingly complied with, even though it took the husband, the only son, the last article of industry or morsel of food. The king was god on earth: everything belonged to him, and must be forthcoming at his command. If he desired the pig, horse, or wife of another, he had only to signify the wish. If his priest needed human sacrifices to appease an angry deity, or to insure success to an expedition, the king's command placed them bound upon the altar. Probably no people in the world ever yielded such abject obedience to the "divine right of kings," as did the Hawaiians of fifty years ago. When, therefore, these chiefs endeavored to learn the secret of the wonderful power of the foreigner, and were informed by the missionary that they might become great and powerful too, if they would learn to read, they replied: If there is such power as this in those wonderful books, it belongs to the chiefs only, and the chiefs *only* shall be permitted to receive it. The missionaries yielded a ready assent to this idea, calculating upon the all-powerful example of the chiefs for the diffusion of light among the people.

Groups of dusky nobles met each day in huts or under the spreading branches of the tamarind or cocoa, to learn the names of the strange marks which the white foreigners would make upon stones, the sand, or on paper. At the outset, the missionaries understood not a word of the native language, while the natives knew no more of the English. The Hawaiian language possesses idioms and peculiarities common to no language beyond the limits of Polynesia. Not only are verbs corresponding to *be* and *have* entirely wanting, but there are no equivalent verbs to take their places. The sentence, *I am here, and have a horse*, in Hawaiian would be rendered, *Here I, and a horse, to me*. There are also many particles without any particular strength or even euphony save to Hawaiianize the language. Then, too, one sound is frequently substituted for another, at the whim of the speaker. The sound of the letters *K* and *T* are used indiscriminately. *D* takes the place of *L*, and *vice versa*. *R* becomes *L*, etc., etc. With all these obstacles, it is wonderful with what rapidity the missionaries picked up the language, and taught the natives to pick it up or rather *out* from the crooked black marks which they had written upon paper. One can hardly conceive the ardor with which both teacher and pupil labored; and when one native had, after intense labor, succeeded in deciphering the words written by some

friend at a distance, his pleasure at the newly discovered power almost exceeded bounds. The foreigners are gods, said they, and we shall soon be gods too. An alphabet was formed containing only twelve letters—the five vowels, *a, e, i, o, and u*, and the seven consonants, *h, k, l, m, n, p, and w*. The long sound of each vowel is the same as in continental Europe, while the consonants have their common English sound. Those sounds that were substituted for each other, were represented by the same letter. Thus the word spelled *Kapu* always, is frequently pronounced *Tabu*. The word *Kalo* is pronounced *Taro*, and *Hilo, Hido*, etc. Books were soon printed and multiplied. Permission was given, and most eagerly accepted, for the common natives to learn to read, and the Hawaiians of that early day may be regarded as a *nation* in search of knowledge under difficulties. “Never too old to learn,” was emphatically their motto. Boys and girls, the middle-aged, and hoary-headed grandfathers and grandmothers tottered back apace from the very borders of the grave, to bask in this new light so suddenly beaming upon them from the East. The object of the missionaries was to evangelize this heathen people. Mythological legends and heroic poetry constituted their entire literature. Although their idols had been destroyed, and they were literally a people with no religion at the time the missionaries arrived, yet superstition, like a bird of ill omen, still hovered over them and excited in their minds vague apprehensions of impending evil. There were those who clung to the customs and gods of their ancestors, and frowned upon every attempt at innovation. The whole social fabric was festering and reeking with vice and crime, so foul as to cause a blush even upon the face of brazen Shame. These teachers, therefore, had not even the virgin soil upon which to commence their labor. They were obliged to pluck up brambles and noisome weeds, fill up quagmires, and cleanse out sink-holes of pollution. The work, however, advanced rapidly. The labor of teaching was gradually systematized, and schools with regular attendants soon took the place of “alphabetic conclaves.” These schools were rude and humble at first, but the influences resulting therefrom are still the wonder of the world.

Among the first prominent schools was the high-school founded at Lahainaluna, in 1831, by Rev. Lorin Andrews. This school has been recently transferred to the Hawaiian government, and is still in a very flourishing condition. The young men cultivate their own food, upon land owned by the institution, and the salary of the teachers employed is paid by Government. The studies pursued are in the native language, and embrace, in addition to the common branches, instruction in moral and mental science, natural and revealed theology, and the mathematics embraced in “*Day's Mathematics*.” This school is in charge of Rev. S. E. Bishop, assisted by C. B. Andrews and a native teacher. In 1840, the Royal School was founded by Mr. and Mrs. A. Cooke. This at first was accessible only to the children of chiefs and members of the royal family.

In this school were educated, in whole or in part, nearly all of the present nobility. It was gradually opened to the children of foreigners, and such common natives as were able to pay a moderate tuition. The building is constructed from the native coral, is large, airy, and convenient. It is supplied with modern furniture, and has a goodly amount of chemical and philosophical apparatus. This school employs five

teachers, has a regular attendance of one hundred and fifty pupils, and gives instruction not only in the lower English branches, but in the higher mathematics, natural sciences, and classics. It is supported entirely by Government, and the teachers are paid directly from the public treasury. Other schools which were founded at an early date and for a time flourished, doing much good, have been discontinued, while upon their ruins and around all, a common-school system has gradually developed itself, which, though far from perfect, commands the respect of all but chronic cavillers and fault-finders. Considering the fact that all the children in these various schools are the sons or grandsons of heathen, and considering the blending of republican and monarchical ideas in the foreign population, I regard the Hawaiian common-schools, with their dusky pupils and teachers, as marvels of progress. The population of these islands at the present time is about 60,000. The Inspector-General reported to the Legislature of 1868, an average attendance in the common-schools of 6,218, of whom 3,487 were boys. These children are all taught in the native tongue, and by native teachers, who are employed by the year, at salaries varying from \$12 to \$20 a month.

The studies pursued in these schools embrace spelling, reading, writing, mental and written arithmetic, and geography. They are entirely free, being supported by a direct Government tax. These free-schools are accessible to every child in the islands. Those wishing to learn English are transferred to the higher schools established for that purpose, and if the pupil is not able to pay, his tuition is remitted entirely.

In addition to these schools, supported *entirely* by Government, a large number of independent private schools receive a *per capita* subsidy—this premium being increased in proportion to the length of time the pupils remain at school. The last Legislature appropriated \$60,700 for the support of schools during the ensuing two years. This, I am informed, has already been expended, while the Board of Education, presuming upon the good sense of the next Legislature, have relaxed none of their efforts in lending aid wherever it was necessary.

They have in progress of erection in this city (Honolulu), for the exclusive benefit of the children of foreigners, a beautiful stone edifice that will cost over \$10,000. This building will accommodate two hundred pupils, and will be supplied with furniture and apparatus suitable for conducting the school according to modern ideas.

Besides the Government common and high schools, there are numerous private and parochial schools, many of which are very flourishing, and are doing much good. These are supported partly by tuition paid by the pupils and partly by subscription, or are sustained wholly by religious associations. In Honolulu the Roman Catholics and Reformed Catholics both have large and flourishing schools for girls. Miss Lydia Bingham, daughter of the veteran missionary of that name, has a very fine girls' school, while private and select schools for boys and girls are scattered about over the whole group. In these schools are taught about 1,000 pupils, making over 7,000 pupils in regular attendance at some school. But to the utilitarian mind, the mere statistics, in numbers, are unsatisfactory. What has education done for the natives of the Sandwich Islands? what is it doing now? I do not think there are 150 native Hawaiians over 15 years of age that cannot read or write. This, to a certain extent, has opened up to them the literature of civilized nations.

Nature is no longer, to them, the wizard's cave, and earth and air the realm of angry demons, as in days gone by. Their superstitions are dispelled or greatly weakened, and while they have not yet taken firm root in the new soil to which they have been transplanted, they are rapidly recovering from the shock caused by their removal from the bogs and fens of barbarism.

Among those who have left the schools are many able and competent teachers, who are doing quite as well as foreigners could do in their places. A large number of native ministers educated here are laboring faithfully in their calling, both at home and as missionaries abroad. We have sharp lawyers, and editors that do no dishonor to the press. Those who have met the late venerable Kekuanaoa, father of the present king, the venerable John Ii, Judge Kamakau, the President of the Board of Education, and many other pure natives whom I might mention, will bear evidence that education and civilization are not confined to Anglo-Saxons, and that "nature's noblemen" are not all of the Caucasian race.

J. R. K.

PEDAGOGICAL NONSENSE.

MR. EDITOR :—Permit me, on behalf of a large and useful class of the community, whose interest it is the duty of the MONTHLY especially to defend, to take exception to a sentiment of the founder of Kindergarten Schools, as stated in your last issue. It reads thus :

"One of Froebel's first conditions in regard to the establishment of a Kindergarten, and one on which, in conversation, he used to dwell long, and express himself with unmistakable decision, was that it should not be made a matter of pecuniary speculation on the part of any individual."

If this is to be the ruling sentiment of the Kindergartens established amongst us, the position of instructor in any one of them will not be a place to be greatly desired. More might be said with truth ; for, to young men and women seeking to earn a livelihood, or to establish themselves in society, the office would rather be one to be shunned. Under such a system, it would be easy to surmise what would be the calibre of the Teachers the nation would be likely to obtain.

In Froebel's day and generation, an inch of ribbon, an order, or a title, was a prize to be coveted as well as money. Here men are commonly graded according to their command of the latter. With us, Croesus rides in his chariot while Socrates walks. If men and women were rewarded according to the value of their labors, the relative positions of educators and money-changers would doubtless be widely different. But right or wrong, things are as they are, to be made better if we can. In view of this, I would respectfully dissent from the silly sentimentality which would degrade still lower the money-value of educational labor. It is simply unreasonable to rule intellectual instructors as superior to that desire for acquisition which governs other members of society. Were fifty Kindergartens opened in this city on the principle of abjuring money considerations, many other schools in the State would soon have reason to regret their existence, unless philanthropic butchers, bakers, grocers, and tailors would come under the same rule, and cease, likewise, to make the articles they deal in "matters of pecuniary speculation."

NEW YORK, October, 1869.

R. W. H.

EDUCATIONAL INTELLIGENCE.

VIRGINIA.—The first annual report of the Board of Education of the city of Petersburg (for 1868-9) is worthy of special notice, from the fact that it records the first year's working of the public schools of the pioneer city of Virginia, if not of the entire South, in the work of providing free education for all classes. In February, 1868, Dr. Sears, as agent of the Peabody Educational Fund, offered the city \$2,000 from that fund, to aid in the establishment of a system of public education, on condition that the city should raise \$20,000 additional for the same purpose. No action was taken on Dr. Sears's proposition until the following May, when a committee was appointed by the common council to prepare a plan for conducting the free-schools of the city. The committee reported in June, recommending the abolition of the existing system, and the creation of a Board of Education, to have charge of all the schools of the city. It was further recommended that separate schools for white and colored children should be established, sufficient to accommodate all that should apply. The report was adopted June 16th, and on the 22d the council appointed a Board of Education, which immediately set to work to put the existing school-buildings in good repair, and to provide other buildings for a High-School, and for four schools for colored children. Up to that time the city had been educating imperfectly an average of less than 300 white children, at a cost of \$5,000. The committee, in submitting their plan, expressed the hope that under the new conditions they would be able to provide a better education for 1,200 children for \$10,000, in addition to the sum promised by Dr. Sears. The hopes of the committee have been realized, and more. There were enrolled in the public schools of the city, the year ending April 1st, 1869, as many as 1,750 different pupils, with an average attendance of over a thousand, nearly half of whom were whites. The cost of the schools for the year was nearly \$16,000, of which the city furnished \$11,000, the Peabody Fund \$3,000, and the Freedman's Bureau \$1,400.

TENNESSEE.—The State Superintendent of Public Instruction has issued a circular giving "facts, figures, and results," of the free-schools of Tennessee, up to July 12th, 1869. The present school-system of this State was established in March, 1867. The Superintendent entered upon his duties the following October. The statistics given cover a period somewhat less than two years:—Number of counties in the State, 84; number from which reports had been received, 63. Number of schools opened, 2,431—for whites, 2,129; colored, 302. Different teachers employed, 2,462; males, white, 1,849; colored, 122; females, white, 418; colored, 73. Number of scholars enrolled, 135,732: white males, 62,782; females, 54,142; colored males, 9,114; females, 9,694. Number of school-houses built since the organization of County Superintendency, 385; number burnt or destroyed in the same time, 37. Amount of funds drawn from the State, \$423,321. Average cost for instruction of a scholar in free-schools for the term of five months, \$3.59. Average tuition of a scholar for the same term in other institutions of learning in the State, \$10.96.

KANSAS.—From the summary of statistics furnished by the State Superintendent in his report for 1869, we select the following items of general interest. Number of persons of school age (between five and twenty-one years of age), 76,150: increase for the year, 13,240. Number enrolled in the public schools, 45,140; increase for the year, 5,691. Number of pupils in other educational institutions, 2,169—about half the number reported the year before. The whole number in public schools and other institutions of learning, 47,209, an increase of 3,611. Average daily attendance, 27,238. Average time schools were taught, five months. Number of male teachers employed in public schools, 746; increase, 205. Number of female teachers employed, 855; increase, 191. Average wages of male teachers, \$39.56 a month; of female teachers, \$29.08. Total of teachers' wages, \$203,878. Number of school-houses, 953—log, 271; frame, 472; brick, 28; stone, 182. Increase for the year, 250. Value of the school-houses, \$813,062; increase, \$239,372. Total productive school fund, \$518,813. Income of schools from all sources, \$429,215; increase, \$86,943.

The only item that shows, or seems to show, a falling off in the prosperity of the schools of Kansas, is that which gives the attendance at select schools, seminaries, academies, and colleges. These institutions report only 2,169 pupils. The year before they reported 4,243. Whether this decline is to be attributed to the successful rivalry of the public schools, or to some less desirable cause, the Superintendent does not say.

The fact that the average daily attendance at all the schools is not more than half the *actual* school population—that is to say, half those between the ages of six and sixteen—while the average length of school is only half the school-year (five months), would seem to show that the competition between public and private schools cannot be very severe, certainly not severe enough to send the latter to the wall.

CURRENT PUBLICATIONS.

WE began the perusal of Madame Cavé's little book¹ with no prejudice in its favor. Our impression, founded upon a hasty turning of the leaves, was rather against it. An instruction-book on the Art of Drawing, without a single diagram, and with no rules in italics, was so contrary to precedent that we felt there was but faint promise of even fair performance in the system.

We laid down the book, after having read it through, with the conviction that no better guide for teacher or pupil has ever met our notice. We hope the method will be tried faithfully in this country. The writer is an artist; but the technicalities of Art, or even the ordinary scientific terms pertaining to projections and natural perspective, are not employed in her familiar instructions.

¹ Drawing Without a Master: a method of learning to draw from memory. By Madame Marie Elizabeth Cavé. New York: G. P. Putnam & Sons.

CAVÉ on Color,¹ a little book by the same author, deserves to be read by all who are interested in Art, even though they are not students or teachers of drawing or painting. The true aim of Art is everywhere insisted upon by this pleasant author, and the increased delight one experiences in studying nature, is offered as the reward of the student.

In his *Elements of Astronomy*,² Mr. Loomis presents the leading facts of the science as revealed by the latest discoveries, in a manner so familiar that the book may be studied with profit by the higher classes in the grammar-schools. The style of this painstaking and successful author is too well known to require comment here.

PRESIDENT WOOLSEY has reprinted in a fair twelvemo volume, the series of articles on Divorce and Divorce Legislation³ contributed by him to *The New Englander* during 1867 and 1868. The scope of the work is indicated by the subjects of the several chapters, which are: I. Divorce among the Hebrews, Greeks, and Romans; II. Doctrine of Divorce in the New Testament; III. Law of Divorce in the Roman Empire, and in the Christian Church; IV. Divorce and Divorce Law in Europe since the Reformation; V. Divorce and Divorce Law in the United States; VI. Attitude of the Church toward Divorce Law and Principles of Divorce Legislation.

MESSRS. J. B. LIPPINCOTT & Co. have begun the publication of a series of French reading-books, with Voltaire's Charles XII.,⁴ to which is added an English Vocabulary by Gustave Masson. The publishers trust that from the correctness of their texts, which are printed in Paris, that the series will obtain the same success they have earned in France. The plates of the initial volume bear evidence of no inconsiderable use.

AMONG the most acceptable of our exchanges we count *Hearth and Home*,⁵ a praiseworthy and very successful attempt to supply first-rate reading to families. It is a witness, and we believe a thriving one, of the growing taste for a better order of literature among our rural and semi-rural population. It is a witness, too, that some country families prefer good reading above the trash that is commonly offered them.

WE rejoice to see the resuscitation of the *Rhode Island Schoolmaster*; and still more to see the evidences of vigor with which it sets to work again. If its improvement may be in any way attributed to its brief suspension, it would be a good experiment to allow some other school magazines that we know to lie fallow for a time.

¹ The Cavé Method of Drawing: Second Part, Color. By Madame Marie Elizabeth Cavé. New York: G. P. Putnam & Sons.

² Elements of Astronomy, designed for Academies and High-Schools. By Elias Loomis, LL. D. New York: Harper & Brothers.

³ Essay on Divorce and Divorce Legislation, with special reference to the United States. By Theo. D. Woolsey, President of Yale College. New York: Charles Scribner & Co.

⁴ Histoire de Charles XII., par Voltaire. Philadelphia: J. B. Lippincott & Co.

⁵ Hearth and Home: a family Weekly Newspaper, edited by Donald G. Mitchel and Harriet Beecher Stowe. New York: Pettengill, Bates & Co. Single copies \$4. To clubs of five or more, \$2.40 each.

THE NEW YORK TEACHER,
AND
AMERICAN EDUCATIONAL MONTHLY.

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TECHNICAL EDUCATION IN EUROPE.

VII.—BAVARIA.—(Concluded.)

THE lowest grade of institutions for technical instruction in Bavaria, the Trades Schools, were described in our October issue. Next in order come the *Real Gymnasiums*. The object of these institutions, as described by the royal decree of 1864, is to give to those youths who have already gone through the complete course of education prescribed in the inferior order of schools “the requisite preparation for entering upon the study of a profession which demands an intimate acquaintance with the exact sciences.” The course of study is consequently of a much higher grade than that of the trades schools—so much so, indeed, as to make them what would elsewhere be considered as preparatory schools for scientific education rather than technical schools. The regulations require also, on the part of students seeking admittance, an acquaintance with some branches of learning, such as Greek and Latin, which are not comprised in the programme of the studies of the trades schools.

There are six of these gymnasiums, one in each of the following towns—namely, Munich, Spire, Ratisbon, Nuremberg, Würzburg, Augsburg. They are all day-schools, under the immediate control of the Government, and supported at the expense of the State. Each gymnasium is divided into four classes or courses. For admission into the first or lower class, the student must be not less than thirteen and not more than sixteen years of age, and must have gone through the four classes of a Government Latin School, or pass satisfactorily an examination, to be held by the rector and the committee of teachers of the school, in the following subjects: Religion, Latin, Greek, German, Mathematics, History, and Geography. For admission to one of the upper classes

of the school, an examination must be passed in the subjects taught in the class immediately below it. The same examination must likewise be passed by a scholar before he moves from one class to another.

The annual sum to be paid by each scholar is fixed at twenty florins,¹ but, as at the trades schools, the sons of parents known to be in poor circumstances are admitted free. Special scholars, or "hospitants," are received only by permission granted by the chief authorities of the province. If the hospitant attends only one special course of study, he pays half the usual entrance-money; if more than one course, the whole amount. On completing the course of study in the four classes of the school, the student must pass an examination in each of the subjects taught, receiving, according to the degree of proficiency displayed, a definite certificate, or "absolutorium," of the first, second, or third class.

The qualifications required of a teacher at these colleges are: (1), that he shall have received the "absolutorium" of a Latin School and of a Polytechnic School; (2), that he shall have devoted not less than one year, at one of the Universities, to the study of the particular science or subject which he professes to teach; and (3), he must have passed the Government examination necessary for all persons entering the service of the State. The teachers are appointed by Royal Decree, and become thereby regular *employees* in the Government service, with all the prospective rights in regard to pension and so forth, which belong to that position.

Polytechnic Schools.—Of these schools there were originally three,—one at Munich, one at Nuremberg, and one at Augsburg; but on the reorganization of the system of technical education, the latter was transformed into a special school of machinery. The Polytechnic Schools are Government institutions supported by the State. The course of study prescribed for them is in direct relation with and follows immediately upon that of the real gymnasiums, and forms the culmination of the system of technical education in Bavaria. Each school has one general section for instruction in mathematics and the natural sciences in their higher branches, and a special section for each of the following four branches of technical science—namely, Architecture, Machinery, Chemistry (each with a two years' course of study), Trade, and Commercial Intercourse, with a course of study of one year. The general regulations with respect to the appointment of professors and teachers are the same as those prescribed for the real gymnasiums. The salaries vary from about 800 to 2,000 florins a year; the latter being awarded only to men of superior attainments, though in some rare cases even more is paid to secure the services of a professor of high repute.

¹ A florin is equal to forty cents.

For admission to the general section of the school, the candidate must have received the "absolutorium" of a real gymnasium, or pass an examination in all the subjects taught in the higher classes of those institutions. A similar qualification is necessary for admission to the special sections; and, in addition, the student must prove, by a test examination, that he possesses the requisite preliminary knowledge of the studies prescribed for such sections. Under the last-named condition, hospitants may be admitted to the general as well as to any one of the special sections. The regulations do not fix any limit of age at which scholars may be admitted. Both the regular students and the hospitants pay an entrance-fee of five florins. In addition to this, the regulars have to pay twenty florins each half-year for the general course of instruction, and fifteen florins for the use of the chemical laboratory, while the hospitants pay from four to six florins, according to the course they attend, and twenty florins for admission to the laboratory. The whole or any part of these charges, however, may be remitted in favor of poor students, as at other Government institutions. On completing the course of study and passing the necessary examination, the student receives, as at the gymnasium, a certificate of competency of the first, second, or third class, according to his merits, the first being the highest grade of diploma in technical science known in Bavaria.

The special school of machinery at Augsburg is organized on much the same footing as the polytechnic schools. The course of instruction is divided into two theoretical classes and one practical class. The subjects of study in the former are mathematics, trigonometry, physics, geometry, machine-drawing, and the theory and construction of machinery; and in the latter, the practical processes connected the manufacture of machinery. The teachers and professors are appointed under the same conditions as in the polytechnic schools. Scholars are not admitted until they have completed their fifteenth year, and have passed an examination in algebra (including logarithms) and in drawing. Hospitants are admitted on examination. The annual charge to regular students is twenty florins; to hospitants, ten florins, with the usual proviso in the case of students in needy circumstances.

Of the special industrial schools not included in the above-mentioned classes, the one most worthy of particular notice is a school for weaving, established a few years ago by the district authorities of Münchberg, a small place near the manufacturing town of Hof, in the province of Upper Franconia. It is calculated to accommodate sixteen regular scholars, who are lodged and boarded in the establishment at an annual charge of 150 florins for Bavarian subjects, or 200 florins for foreigners. The scholars must be not less than 14, nor more than 22 years of age, and on admission each scholar must engage to remain two years. There are

at this school two theoretical and two practical classes. In the former, instruction is given in German, geography, arithmetic, drawing, etc., in matters connected with the theory and preliminary processes of weaving, and in respect to the nature of the materials employed in the manufacture of woven goods. In the practical classes, the art of weaving is taught in all its varieties. Weavers already more or less acquainted with their trade, but desiring to improve themselves, are also admitted as scholars. These pay ten kreutzers a day for their board; and for their lodging and instruction, half their daily earnings during their stay at the school.

Between the directors of the school and the proprietors of some manufactories established in the neighborhood, an arrangement has been made, according to which the latter supply the raw materials and patterns required for the practical section of the weaving school, and pay the usual price for the work done when the materials are returned in the form of finished goods. The staff of teachers consists of one special instructor in weaving of every description, who is at the same time the head-master or manager of the school, a teacher for the various branches of ordinary education, and an assistant instructor in weaving, the latter being chosen from among the most expert of the journeymen attending the school.

Connected with this institution is a Sunday-School which affords gratuitous instruction to artisans of every grade. The pupils are divided into two classes. The instruction given to the first class is adapted to all trades in common, and consists of lessons in free-hand and linen-drawing, German composition, mental and common arithmetic, and subjects specially relating to trade. The second class comprises the weavers alone, who receive theoretical and practical instruction in their trade.

There is another industrial school—at Berchtesgaden, near the Salzburg frontier of Austria—which may be worthy of notice. It is a day-school, established by the district authorities and supported by local public funds, with the object of promoting and improving an industry that has long been carried on by the inhabitants of that mountainous district, namely, the art of carving in wood and bone. The course of instruction consists of drawing, modelling, and carving from drawn patterns. It is open free of charge to all the children of the district, provided they have complied with the law respecting attendance at a national school. Children from other districts are admitted on the payment of a fee to be fixed by the directors of the school. Four years is the usual period of attendance. After leaving the school, the scholars are at liberty, with the permission to copy the models belonging to the school, and to exhibit their works, and dispose of them in the show-room of the institution. The establishment would seem to be on a small scale, as the prospectus speaks of but one master, who is charged apparently with the entire course of instruction afforded.

MORAL VALUE OF NATURAL HISTORY.

CRUELTY to animals is partly the work of brutal natures, and partly perpetrated by well-meaning people under the influence of bad habits, in relation to the particular creatures they torment ; and if we could estimate the total quantity of cruel infliction imposed upon birds, beasts, reptiles, and fish, we should probably find that by far the larger proportion resulted from the ill-regulated action of good, and even benevolent persons. Much ill-treatment of animals comes out of the ordinary proceedings of trade. It has been the custom to bleed calves, to cram sheep and poultry into the smallest possible apparatus of transport, to drive cattle for long distances without permitting them to drink, and to slaughter them without sufficient avoidance of pain. Each little circle in which these malpractices occur, forms its own theory of cruelty and benevolence, and laughs scornfully at outsiders who object to its ways. The fox-hunter thinks a man a fool who reminds him of the unbenevolent character of his sport ; and the fine ladies who flock to aristocratic pigeon matches, have no more compunction at witnessing the sufferings of the maimed birds, than the Spaniards have for the gored horses and tortured bulls in their disgusting national recreation. It may be affirmed as a general proposition, that the cruelty of custom or indifference does not lead to the demoralization which inevitably results from a deliberate choice of action that inflicts unnecessary pain ; and yet all familiarity with needless and useless suffering must tend to damage character, unless it excites strenuous resistance to the evil, and efforts for its cure.

The circumstances that combine to form brutal characters in modern society are extremely complicated, and lie for the most part outside the matters we have now to discuss. Our object is to show that ignorance of the character and ways of animals, is one of the chief preventible causes of the cruelty that is inflicted upon them, and that the method of cure is by teaching natural history with due reference to its moral aspects. Many ill-used creatures are the subjects of an aversion which would be changed to liking, or at any rate to respect, if their nature and actions were better understood ; while many others suffer under simple indifference because they have not been brought within range of sympathy. . . .

In the "good old times" cruelty was incidentally, but not less powerfully taught in our chief schools. The masters inflicted upon their pupils brutal floggings, the big boys grossly tyrannized over the little ones as fags, and each member of the society, receiving maltreatment from those stronger than himself, handed it over to others, over whom he could play the despot in turn. The public amusements, until recent periods, included bear and bull baiting, cock-shying, dog-fighting, cock-fighting, and man-fighting,

while duelling was the fashionable method of adjusting disputes. During the same dark days, hatred of foreigners was inculcated as a national duty, and no human rights were supposed to belong to men who were born with black skins. Class hatreds matched international animosities, the upper circles made laws against those beneath them, which were correctly described as written in characters of blood; and if circumstances gave the lower classes opportunities of revenge, they did not fail to show how successfully tigers' qualities had been cultivated in their breasts. We have been slowly learning that all human beings are entitled to just and equitable treatment, and we have included one group of animals after another in our system of legal protection, so that the chief work which remains to be done is to widen our sympathies until no living thing shall be improperly excluded.

We do not want a mawkish sentimentality about the sufferings of animals or men. Individuals afflicted with this form of mental disorder can weep hysterically over a damaged blue-bottle, and behave abominably to their relations and friends. Fantastical horror of pain is by no means incompatible with gross cruelty in its needless infliction, and we should not put implicit faith in the benevolence of individuals who voluntarily allowed fleas to dine off their juices, or assuaged the hunger of tigers with their blood. Animality-mongering is no better than humanity-mongering, but a wholesome fellow-feeling for our "poor relations" in the organic world below us is a graceful attribute of a well-developed mind.

Natural history, as a mere science of arrangement, has little moral influence until it reaches its final stages, and by exhibiting all living beings as one great organic unity, sheds some portion of the dignity and worth of the highest upon the lowest forms; but when it is made to include habits and manners as well as structural peculiarities, its influence in extending the range of sympathies is very direct. Rude or prejudiced thinkers do not see how doctrines of unity tend to this result. The semi-civilized white man felt, and still feels, his sham dignity hurt by pointing out that he belongs to the same species as the negro he maltreats; and the Darwinian theory has met with rampant abuse, as lowering humanity by suggesting its origination from lower forms of being. But were it proved that man's ultimate great-grandmother was an infusorial speck, and that all the mammalia were cousins, so many degrees removed, the man would be no less, though the mammals might seem so much more; and if such theories of development are entirely discarded, we may still be benefited and more kindly disposed, if we learn and honestly recognize the fact, that animals have, within narrower limits, moral and intellectual faculties of the same nature as our own.

A wise teaching of natural history brings this lesson into strong relief,

and no one can be an observer of tame creatures without finding out that they have their feelings of pride, justice, and even duty, very similar to our own, and that the difference is not one of essential nature, but of development and method of combination. The more we know of the proceedings of animals the less we ascribe to a blind instinct, and the more we discover that within the limits of their faculties they exercise discrimination, and modify their conduct to suit new circumstances or enable them to take advantage of new ideas. This last expression will doubtless excite a smile ; but our readers will recollect what Mr. Wallace has told about the birds of wild countries, and the readiness with which they learnt what to do with articles their predecessors had never seen, and with buildings the like of which had had no existence in their progenitors' days. The first bird who saw that a fragment of clothing might be worked into his nest, and acted upon it, and the first which made his dwelling in a tower, or under the eaves of a house, were discoverers and inventors quite as truly as are men who find out the use of new things.

Natural history can easily be worked into the routine of school teaching ; but it ought also to take its place among the recreations of family life, and in that position it will be most effective in promoting a good moral end. As instruments of intellectual discipline, all sciences which include logical classifications have an obvious value, and when even elementary natural history is associated with comparative anatomy and physiology, it supplies an excellent training for the mind.

The study of animals in reference to their structure is capable of being made a fascinating pursuit, especially if the modern discoveries concerning the unity of plan in creation are fairly considered, and care is taken not to give undue prominence to imperfect conceptions of the supposed purpose and object for which the structure was designed. An unphilosophical natural history treats each creation as a separate unit, and fails to show its true relation to either living beings or to fossil forms. With a vain presumption of "knowing all about it," it finds the sole cause of any structure in the function it performs, and thus misses entirely the larger views which science can unfold. The most interesting generalizations reached through the labors of such men as St. Hilaire, Goethe, Oken, Van Baer, Herbert Spencer, Huxley, Darwin, etc., can be made intelligible to those who possess only a popular knowledge of anatomy and physiology, provided it be sound as far as it goes ; and the student of natural history, even for recreational purposes, should not be satisfied without obtaining some insight into this part of the science.

When we urge upon teachers the propriety or utility of adding one subject after another to school-training, we must remember, not only that "art is long," but that school-time for the mass of the people is very

short. The school ought certainly not to omit natural history, but its chief cultivation must take place independent of school aid, and after its termination. The school may lay a foundation, but it is after school-time that the structure must be raised, and if a capacity for, and a habit of, making intelligent observation can be cultivated in youth, few will be without opportunities for their exercise in the years of manhood and age.—The (London) *Student*.

SOME ASPECTS OF THE DUTY OF SELF-CULTURE.

THE development and culture of the higher tastes is essential to completeness of character. These tastes are in part intellectual, and in part emotional; but it is convenient to consider them as a distinct department of our nature. Their improvement becomes a duty, not on the ground of the intrinsic value of the beautiful, but of its relative value, its adaptedness to satisfy a human want, and add to human power. Their culture and gratification are sometimes thought to be unauthorized, as involving an expenditure of time and means that should be devoted to better uses, but it is not difficult to see that they pay their way, blessing their possessor with a richer subjective life, and endowing him with greater efficiency in his action upon others. It is true that these tastes are an expensive part of our nature. They multiply and extend our wants. Our chief expenditure in the way of dress, and food, and dwellings, and surroundings, is imposed by our higher tastes. It is on this account that provision for human comfort is more costly than for that of brutes, and that civilized life involves greater expenditure than savage life. But man is better than a stone or an oyster, because of his multiplied susceptibilities and necessities, and his true elevation is found, not in suppressing or neglecting these wants, but in adjusting them to each other and to his conditions, in giving prominence to the genuine, and permanent, and ennobling, and in repressing the unreasonable, the factitious, and degrading. Those who have labored in the dark places to elevate human character, have often found that one of the first steps is to awaken a desire for a better external condition, to implant or arouse some want or sense of the seemly and the decorous, in apparel or in dwelling. To want, is the nature of man, and low animal wants and passions are repressed and held in check by awakening the elevated tastes and desires. Nature will break out in some unseemly form if the proper channels for its movements are obstructed. In place of comely outward adorning and appointments, we shall have tawdry display and barbaric splendor. In

place of genuine social enjoyment and refinement, we shall have gross sensual pleasures and a grovelling life. The result warrants the expenditure.

But while æsthetic culture is expensive, it increases the productive power of a people in a greater ratio than the expense. The power of the world lies in the cultivated nations. They not only supply their own increased wants, but have a surplus of energy and power to expend in benefiting others. It is the rude and uncultured that constitute the needy and dependent of the world, even with their diminished wants. There is power in men according to their motives for action ; and their motives for action are multiplied and elevated in the multiplication and elevation of their wants, and in the conscious excellence of their being. Culture brings self-respect, and in self-respect there is power.

There is a somewhat prevalent idea that high culture brings weakness, in the sense of inability to endure hardship ; that the increased sensitiveness to the annoyances and inconveniences of life, indicates inability to bear up against them. The idea is not well founded. The cultivated man has resources within himself, which are not dependent upon mere outward condition. He finds relief and refreshment, where another finds nothing to meet his wants. He has superior strength to struggle with difficulty, because he has higher motives in the conflict, and a greater stake upon the result. This view is abundantly supported by facts. The men who survive the hardships of a perilous expedition, like that of Dr. Kane, are those whose minds are enriched and characters elevated by the higher culture. Even with less stalwart frames they will live to bury their comrades who rejoiced in mere physical strength, or to bring them through by their superior endurance. Women, refined by culture to true delicacy of feeling and perception, stand up and live under the self-denials of emigration and of frontier life, while those apparently less sensitive and better fitted to endure, die. They have higher reasons for living. Life is more full and rich to them. Young men brought up in the midst of the refinements of life and trained in the schools, endure the hardships of the camp and the field, while the rugged, but uncultured, are broken down by disease, or die of nostalgia. We often pity most, those who least need our pity.

There doubtless is a form, or show of culture, which brings weakness instead of strength, there is an outside refinement which etherealizes and attenuates the body, instead of expanding and ennobling the soul, which burdens the person with unreal wants, instead of sustaining him with substantial and permanent resources. There seems to be a point where civilization or refinement ceases to be an advantage, and becomes a burden—a limit beyond which the conveniences and comforts of life become annoyances ; and yet it will perhaps be found that the failure is not in

degree, but in kind. True refinement has its foundation in the permanent susceptibilities of the soul, and consists in a reasonable provision for these. False culture consists in generating unreasonable and arbitrary wants, and in accepting the burdens which they impose. These two are as clearly distinguishable as the dictates of true taste and the demands of fashionable life.

There is, too, a refinement which degenerates into fastidiousness—a self-conscious and pretentious delicacy, more alive to the offensive than to the pleasing. There are those whose culture is more a source of annoyance to themselves and to others, than of pleasure, and more to be avoided, even, than rudeness or coarseness. The preventive and the remedy for this disease, is benevolence—a true and genuine sympathy with God and humanity.

A true culture is as valuable in our adjustment to others, as it is satisfactory in internal experience. If not an original element of power in personal influence, it is at least a regulative force which gives effectiveness to personal power. It is like the balance-wheel in machinery, which regulates the movement; or like the oil, which reduces the friction. Steam-power would be utterly useless without a lubricator. So a sense of the properties of time and place, an appreciation of fitness and unfitness, brings all the movements into harmony. It tones down the ruggedness of mere intellectual or physical power, and gives it wise direction. A delicate and discerning movement is more efficient than a stronger but rougher force. Such an instinct of proprieties, in part original and in part acquired, is sometimes called a knowledge of human nature; but it involves no theories, no conscious ideas; it tempers and adjusts theories and ideas to practical and effective use. It is in demand in all the relations of life. The rough and uncultivated yield to the charm as readily as others.

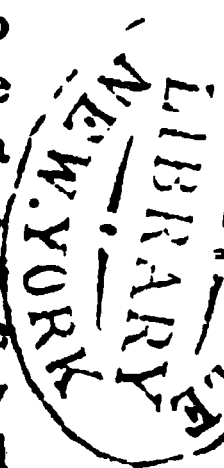
The influence in society exerted by a lady of true refinement and delicacy of character, it is difficult to analyze or explain. It lies not so much in beauty or elegance of person, in vigor, originality, or brilliancy of thought. All these are valuable, and contribute to the result. Nor is it merely the power of moral worth. This is essential, and without it there is no satisfactory result. But add to this a delicate sense of proprieties, a quickness of perception, to adjust herself to others, to occupy the place that falls to her with dignity and ease, and you have a civilizing force not easily estimated. Her power will not lie in the new ideas she sets forth, nor in the vigorous enforcement of her views. She may not vote or lecture. There is power in the graceful goodness which beams from her countenance, in the beauty and harmony of her action and her life. Evil will fly before her as darkness yields to light, and truth and good-will spring up in her pathway.

The general culture of which such a character is the product, I have called æsthetic culture, using the term, possibly, in a wider sense than is commonly accepted. Its attainment does not come with what are technically termed in education, the accomplishments. They may fail to bestow it, and it may be secured without them. Proficiency in the fine arts, even to the extent of an appreciation of the great masters, is not a guaranty of true refinement and genuine culture. All these are helpful, but there is a way more sure and simple. He who opens his heart to the requirements of benevolence, who comes into sympathy with divine goodness and love, walks abroad upon the earth where God's beauty smiles, and lifts up his eyes to the heavens in which his glory shines, will sooner or later find that beauty and glory reflected in his own spirit. Thus we may attain a culture higher than ancient or modern art can give.

The question, how much time and means we are permitted to devote to the culture and gratification of our æsthetic nature, has never been answered, and cannot be. Many modifying circumstances enter into each particular case, excluding the application of any general formula. The claims of benevolence are always paramount; and in the ever-varying conditions of life, we must render a conscientious judgment upon the demands of propriety and duty. Station in life, and relations to general society, are among the factors which determine the result. The man in public, and the man in private life, have different necessities and different standards. What would be propriety for the one, would be extravagance for the other. The mistress and her maid sustain different responsibilities, and, in the matter of personal adornment, one cannot be the model for the other. Life in the city and life in the country, student life and life in general society, have each their own requirements, and each gives its own solution of the problem of good taste and propriety. Some allowance, too, is to be made for personal peculiarities in taste. To one, a picture or an instrument of music is only less necessary than daily bread. To another, the absence and the presence of such things are alike indifferent. These persons have different wants, and are permitted to make reasonable provision for these wants. The world is the richer for these personal differences.

Propriety and duty are also modified by the demand for effort in other directions. The world is full of pressing want, sometimes at the very door. Purple and fine linen and sumptuous fare are pleasant and desirable; but the benevolent and the conscientious cannot enjoy them, while Lazarus lies at the gate. The wants of the country and of the world must always be considered. In the presence of great destitution, especially near at hand, large expenditures for the indulgence of taste are offensive and unwarrantable.

Attention to the impulses of taste, to the neglect of higher personal



wants, is equally unworthy. A character formed under exclusive or excessive attention to the niceties and refinements of life, is sure to be feeble and shallow. It is thus that dandies and fine ladies are produced, and the *dilettanti* of literature and art, not the soulful men and women, whose personal presence is a power and a blessing. To buy a coat when you need a dictionary, to travel for culture when you need to work or study for discipline and strength, to patronize the milliner and neglect the instructor, are mistakes of this sort. Taste and art furnish the adornments of life, not the grand material of life.

A clear discrimination is to be made between the requirements of good taste and the demands of fashionable life. A moderate outlay would meet the real natural want, while the arbitrary demands of fashion and ostentatious display are a bottomless abyss, swallowing all resources, and yielding only emptiness. The attempt to meet such demands is utterly vain, and the burden which they impose is too grievous to be borne. In this direction, sad mistakes are made. Those who, with moderate means, could meet their own simple and reasonable wants, and have a surplus for works of charity and beneficence, with enlarged resources, falling into the tide of fashionable life, find their wants multiplying more rapidly than their means, and charities give place to indulgences. There is a proper ratio, variable, not constant, between expenditures for beneficence and for the refinements of life ; and those who find the former yielding to the latter, need to readjust their plans.

Our physical powers are given us to improve and to use, and the general duty of self-culture extends to these. This duty has a twofold aspect. The body is the instrument and organ of the mind, and our intellectual and spiritual activities and movements are dependent upon the conditions of the body. A sound mind comes with a sound body. Every disturbance of the physical condition produces a reaction upon our highest and noblest powers. Duty to the soul involves duty to the body. Again, our physical powers are among the faculties which we are to employ in the service of God and man. To neglect, or abuse, or pervert them, is to fail in the trust committed to us.

Duty, in the way of physical culture, implies proper attention to health. Health is the condition of effective action in all the work of life ; and any course which undermines the health, or fails to supply its conditions, is wrong, and if unnecessarily pursued, is a sin. Excessive exertion of body or of mind, neglect of bodily exercise and relaxation, harmful indulgence of appetite, are among the ordinary forms of transgression. It is rare, in experience, that due thoughtfulness comes until the evils of neglect and abuse are incurred.

The acquisition of manual accomplishments and skill, is among the duties connected with the body. It was a wise provision of the ancients,

that every man, whatever his condition or calling in life, should acquire skill in some handicraft. This wholesome practice has fallen into disuse. Yet utter inability to use, for the ever-present wants of life, so cunning an instrument as the hand, which God has given to every man, is a misfortune and a wrong. It gives, even to the best, an appearance of dependency and inefficiency, which is unworthy of them. The hours of leisure and relaxation, which belong to the busiest life, are adequate to such attainments.

Proper attention to form, and bearing, and manners, belongs to the duty of physical culture. Each man should endeavor to get full possession of his own person, and be at home with himself—not seem an intruder in the body given him to inhabit. These personal accomplishments are pleasing in themselves, and add to the influence which it is every one's prerogative and duty to exert.

The formation and maintenance of such personal habits as render one agreeable as an associate in the family, and in general society, is an obvious duty. No one has the right to render himself offensive and loathsome by habits which mar the countenance, or pollute the breath, or detract from the dignity and excellence of his physical nature. Nor has one a right to subject himself to the slavery of unworthy habits, in eating or drinking, or in the use of vile narcotics, which seem to be the evil genius of fallen human nature. From all such unclean spirits, it is the privilege and duty of God's rational creatures to be free.

In all efforts at physical culture, it should be borne in mind that the soul is predominant, and the body subordinate. The highest condition of the man is that in which the soul acts with greatest freedom and vigor. This is, in fact, the highest corporeal condition as well; or rather, it is the condition of greatest physical efficiency and endurance. It is not established that the fullest muscular development, or the most perfect exhibition of the animal man, is most favorable to efficiency or power. It is by no means clear that muscle is not sometimes cultivated at the expense of brain, and animal strength at the sacrifice of nervous energy and power. It is at least questionable whether he who makes a gymnast of himself, is not sacrificing the higher to the lower nature, and whether, in the end, he is not the loser, even in the domain of physical power and achievement. This is a question for physiologists, but it is one which cannot fail to interest every friend of humanity.

The growing admiration, in our land, for exploits of mere physical strength and prowess, possessing the popular mind, and even invading our schools of learning, looks like a retrograde movement in civilization, rather than an advance. It is, perhaps, but a needful reaction from the general neglect of physical culture which has prevailed; but it cannot be necessary at this day to repeat the experiment of Sparta.

It is a great mistake, too, in the question of physical culture, to overlook the predominance of the moral element in human nature. He who studies man, in his capacities and wants, as he would study a mere animal, can never trust his conclusions. Man is a complex being, and must be contemplated in the completeness of his nature. The effect of moral motives upon human power and endurance, must not be overlooked. Men live and work, sometimes, because they have good reasons for it, and not because there is any apparent basis in their physical condition for so doing. If the facts were gathered in reference to those who have been the benefactors of the race, in the fields of literature and of moral progress generally, it would probably be found that the vast majority of them have wrought under a constant struggle with some physical infirmity. Pain has often proved the necessary stimulus to exertion. The nervous restlessness which comes with suffering, expends itself upon enterprises which bless mankind; and the interest felt in the enterprise reacts upon the sufferer, to lift him above his infirmity, and give him new energy and a longer lease of life. It is no rare thing that the feeble outwork and outlive the strong. All this does not prove that health is not a good to be sought and preserved. It is one of the compensations by which Divine Wisdom balances the advantages and disadvantages of life. Those deprived of full physical vigor may still labor with good courage and hope.

These hints may serve some purpose in suggesting the different forms in which the great duty of self-improvement may be pursued. It is a duty that ends only with life—perhaps not then; and when all that is possible has been accomplished, there will still remain sufficient of infirmity and defect to save from self-exaltation, and to test the forbearance of friends.—*From Pres. Fairchild's "Moral Philosophy."*



TEACHING AS IT IS AND AS IT SHOULD BE.

FROM an essay in which an assistant master of Harrow School (E. E. Bowen, M. A.) criticises the usual mode of teaching classics by a laborious preliminary instruction in grammar, we excerpt the following paragraphs. The writer's strictures on grammatical teaching are not inapplicable to much of the so-called science-teaching among us.

The study of language (he says) is now the only kind of study which deliberately professes to advance in a direction exactly the reverse of every other branch of human progress. In every other fruitful inquiry.

we ascend from phenomena to principles. In classical study alone, we profess to learn principles first, and then advance to facts. . . .

It is a truly painful sight to see a boy sit down to master a set of clumsy rules, of which he will never use the half, and never understand the quarter. He is, as almost all boys are, willing to be taught. He is, as very many are, prepared to submit to a reasonable amount of drudgery. He is, we will say, of average ability and endurance. Of such a boy, we will confidently assert that, for the purpose of learning the language to the extent to which he will probably be able to carry it at school and college, the greater part of what he has to learn in most grammars is wholly useless. His time, his temper, his docility, his confidence in his teachers, his desire to improve—all these are sacrificed in order that some analyst, for whose peculiar powers of mind the compilation of his grammar may have been a charming exercise, may not have written in vain. Pedantry gains, and English Education suffers. . . .

It has sometimes occurred to us to fancy a teacher of some other department of study attempting to succeed by the methods of grammarians. We will suppose that a professor of chemistry is beginning work with his class. Proceeding upon the classical principles, he will first commit the whole of his knowledge to a volume, which he will draw up in a dry and technical style, and if possible, in a dead language. Of this he will ask his class to learn a certain portion every day, and to believe the time may come when they may want it. He will perform a few experiments, every detail of which he will refer to their position in the book. He will urge as carefully as he can that the phosphorus takes fire, not because chemical force is set at liberty, but because the book says it shall. He will introduce into his book-lessons the rarest metals and the most elaborate combinations, not because the pupils will commonly use them in the laboratory, but because his system is not complete without them. And when he finds that his disciples hate their work, and, in practice, hardly know an acid from a base, he will believe that the fault lies, not in his mode of teaching, but in the unfortunate incompleteness of his book. . . .

One is driven, sometimes, to the verge of asserting that books are the great obstacles to education. Whether this be too audacious a paradox or not, our teaching wants sadly to be humanized. . . . It is not worth while to discuss whether a method ought to be easy or hard. But we should even go on to say that it is the duty of a teacher not to rest as long as any difficulty exists which by any change of method can be removed. Involuntary learning is of as little use to the mind as involuntary exercise to the body.

Now it is certain that a large proportion of boys dislike the work which they have to do. Some like it; some are indifferent; a great many sim-

ply hate it. We maintain that an educator of boys has no business to be satisfied as long as this is the case. A very few may dislike all intellectual labor, just as a very few men dislike it ; but these cases are as rare with boys as with men. The great mass of human beings, whether young or old, have appetites for mental food of some kind, and the reason that so many turn away from it is, that what is given them is not what they can digest. There is a sort of incongruity, which falls little short of injustice, in punishing a boy for being idle, when we know that the work which the system of his school exacts is as cramping and distorting to his mind as an ill-fitting boot to the foot.

If it could only be regarded as an established truth that the office of a teacher is, more than anything else, to educate his pupils ; to cause their minds to grow and work, rather than simply to induce them to receive ; to look to labor rather than to weigh specific results ; to make sure at the end of a school-half that each one of those intrusted to him has had something to interest him, quicken him, cause him to believe in knowledge, rather than simply to repeat certain pages of a book without mistake,—then we might begin to fancy the golden time was near at hand, when boys will come up to their lessons, as they surely ought, with as little repugnance as that with which a man sits down to his work.

This is indeed something worth being enthusiastic for. To convince boys that intellectual growth is noble, and intellectual labor happy, that they are travelling on no purposeless errand, mounting higher every step of the way, and may as truly enjoy the toil that lifts them above their former selves, as they enjoy a race or a climb ; to help the culture of their minds by every faculty of moral force, of physical vigor, of memory, of fancy, of humor, of pathos, of banter, that we have ourselves, and lead them to trust in knowledge, to hope for it, to cherish it ; this, succeed as it may here and fail there, quickened as it may be by health and sympathy, or deadened by fatigue or disappointment, is a work which has in it most of the elements which life needs to give it zest. It is not to be done by putting books before boys, and hearing them so much at a time ; or by offering prizes and punishments ; or by assuring them that every gentleman knows Horace. It is by making it certain to the understanding of every one, that we think the knowledge worth having ourselves, and mean in every possible way, by versatile oral teaching, by patient guidance, by tone and manner and look, by anger and pity, by determination even to amuse, by frank allowance for dulness and even for indolence, to help them to attain a little of what gives us so much pleasure. A man, or an older pupil, can find this help in books ; a young boy needs it from the words and gestures of a teacher. There is no fear of loss of dignity. The work of teaching will be respected when the things that are taught begin to deserve respect.

SECRET SOCIETIES AND DUELLING IN GERMAN
UNIVERSITIES.

II.

WHILE the Prussian Government was preparing the reorganization of the Universities, the student's life within the different leagues had reached a point which might well fill an outside observer with solicitude for the future. There were at that time only a few Universities, perhaps only Göttingen and Leipzig, where the tone and manners of the students approached refinement. In all the others there prevailed a degree of licentiousness and wild revelry (*der Gemeinste Laus und Braus*, as Goethe says), which threatened a speedy annihilation of all higher culture. The leagues exercised a perfect terrorism over all non-members. Dissipations, night revels, drunkenness, destruction of public property, assault and battery on peaceful citizens, duelling without restraint, often in the open street, were the order of the day. And all these outrages were generally committed with perfect impunity.¹ Liberty, which at that time was denied to all other spheres of society, seems to have revenged itself on its oppressors by a complete overthrow of all restraints in this peculiar sphere, the student's world. The pent-up waters broke the dykes there, where they were weakest, and transformed the seats of learning into a whirlpool of unbounded madness and folly. The most extravagant of the tricks we occasionally hear of in American colleges, dwindle into utter insignificance, if we compare them with what their German prototypes considered as "fun." And yet the American student would have been not a little astonished, if he could have accompanied these bands of night and day revellers into a lecture-room. Here, at least, the most complete and rigorous order prevailed. We might call it a "terrorism of order," for the same students who were the tyrants of disorder without, played the tyrants of "order" within. Woe to the unfortunate one that came too late into the lecture-room, or to the sickly individual, suffering from a little cough, or to the wag who feigned a sudden attack of sneezing. Either would be promptly and summarily unseated and un-roomed, and

¹ The writer remembers that even in a time considerably later than the one we are describing, a citizen complained before the Prorector (a renowned Professor of Medicine), that he was mercilessly beaten by a student. His Magnificence inquired after the origin of the difficulty, and the citizen alleged that his aggressor was drunk. "Then you ought to excuse him," remarked Magnificus; and seeing that the unfortunate citizen was hesitating, he added: "Why, sir, have you never been drunk, and would you like to be punished for all the nonsense you ever committed in such a state?" This logic did not quite satisfy the citizen, but the matter was settled with some indifferent fine.

would find himself quicker than he wished out in the cold. A perfuming of the Professor's room with assafoetida, or similar high-scented elements of fumigation, would probably have seriously endangered the life and limbs of the malefactor. Of such unheard-of crimes no records are extant.

It is remarkable that just at the time of the wildest dissipation, and in the very wildest and most notorious of all German Universities, that of Jena, a movement originated which more than all legislative measures cut off those excrescences of the student's life, that seriously endangered the very existence of the Universities. This was the foundation of the "*Deutsche Allgemeine Burschenschaft*," in the year 1817, at the anniversary of the battle of Leipzig, in the same old castle of *Warburg* where Luther endured that sham-captivity which he employed to translate the Bible from the original tongues. The students of almost all the German Universities had sent representatives to this national festival, and it was here that the noblest of their youths founded that memorable league whose ultimate aim was the union of the whole Fatherland under one central government. They considered the existing secret societies as one of the greatest obstacles to this end, not only because they were *sectional*, but also because by their rudeness and licentiousness they withdrew the attention of the students from their proper sphere, and especially from a pure devotion to *political* virtue. The league assumed the German national colors, black, red, and gold, declaring war against all territorial badges and colors. Soon a complete constitution and organization (under the countenance of some few of the smaller territorial governments) was adopted, by which Jena was made the central seat of the highest chapter, and special chapters were established in all the German Universities. The number of members rapidly increased far beyond that of the sectional societies, which, in opposition to the "general *Burschenschaft*,"¹ were now styled "*Landsmannschaften*."²

The influence which this new league exercised in purifying and ennobling all relations within the peculiar world of the students, can hardly be overrated. They insisted on the abolition of duelling, on religious, intellectual, and physical training, and especially on a vigorous preparation for those duties which they would have to fulfil on a future day as citizens of a free and great country. But by this time Austria, the evil genius of Germany, had commenced her baleful work under the auspices of Prince Metternich, one of the most unscrupulous of statesmen. It was the avowed plan of this executioner of the human mind, to convert

¹ *Bursche* (bursa) means "student." The name is derived from the different pecuniary (French *bourse*) advantages, of which the students formerly partook.

² That is, societies belonging to the different territories.

all mankind into a vast machine, to be put in motion, managed and stopped at will by a few courts, which were in turn to be "managed" by himself. Metternich reminds us in several respects of Napoleon, under whose eyes he opened his career. He shared with him that utter contempt of mankind, for which humanity has signally revenged itself on both. But while this contempt of men simply entered as a factor into Napoleon's plans, Metternich's system was founded on it exclusively. To Metternich, the idea of a free and great Germany, and the principles of the new league, were simply ridiculous; but in the moment the latter assumed dangerous dimensions, he pursued it with implacable hatred, and resolved to crush it. By an almost incredible astuteness he had thrown a secret charm over all the European courts. The princes of Europe soon considered him as their oracle. True statesman-like wisdom, they imagined, could be found only with him. What *he* would say, what *he* would think of this or that matter, was the foremost of all questions. He seemed just as familiar with the affairs of France, Prussia, Russia, Italy, and all the secret springs by which the machinery of these States was worked, as with his own Austria. He had studied the characters and weak points of all the princes, of all the statesmen, ambassadors, and diplomatists of his time. He knew how to flatter every one of them, how to excite hopes in the one, fears in the other, to play on the passions of a third, and on the hobbies of a fourth. For all evils, he was sure to have a remedy, infallible as the logic that he liked to display. Thus every one considered him his own, while in fact they were all Metternich's.

For such a man it was not difficult to convince the German governments of the dangerous character of the new league; and the different steps that thereafter were taken against it, were either suggested or approved by Metternich. The persecution of the *Burschenschaft* was one of the few measures in which the German governments were in perfect concord. No measure, conducive to the welfare of the common country, ever found a majority among the German governments as long as Metternich was at the head of affairs. But whatever tended to disintegration and oppression of freedom was sure to be unanimously adopted. An occasion to interfere in the affairs of the young league was soon found. The *Burschenschaft* had been founded on a principle whose time had not yet come; and, as it usually happens under similar circumstances, many visionary ideas which, at that time at least, could not be realized, were seized by its members with avidity. In the heads of these young reformers the *real* and the *ideal* dwelled side by side in a perfectly charming manner. Dreams of a golden age of German greatness and glory haunted their imagination, and made fanatics of many of their members. If, at that time, there had been sitting at the helm of the Government those

wise statesmen who had planned the reorganization of the Universities, the enthusiasm of the league would have been made available for the nation. But, unfortunately, the time of the Humboldts, Steins, and Hardenbergs had passed away, and their places were filled by cold utilitarians, the acolytes of Metternich, unconditional believers in the divine right of princes and in a providential mission of Austria. It would lead us too far to describe the whole system of treachery which they employed in order to ruin the young league. They were waiting only for a plausible cause to make use of violent measures. Venal but able writers were employed, who by their perfidious insinuations and accusations had to fan the growing discontent with the Government into open flames. The facts brought forth against the league were either invented or grossly exaggerated. One of the most notorious of these pamphleteers was August von Kotzebue, an author of great celebrity, but void of principle and still more unscrupulous than he was able, a true Dryden of his time. The young fanatics were accustomed to identify this man with the powers of darkness. Some few of the most fanatical thought that it would be a work pleasing to God to free the country from an emissary of Satan. They drew lots. The deed was assigned to Karl Ludwig Sand, a youth of irreproachable morals, pious and full of high promise. He stabbed Kotzebue (March 13, 1819), and paid for the crime with his life on the scaffold. Now at length a specious pretext for proceeding against the hated league was found, for Sand was one of the members, and the guilt of one or a few was imputed to the whole. All the members of the league, thousands in number, were arrested, and a monster-trial before an extraordinary court was opened, which after a duration of many years resulted in a cruel and long imprisonment of almost every member. The sentence could only be substantiated by inventing a crime of constructive high-treason, by twisting the words of the law into a meaning contrary to its intended sense. The partaking of the students in any league was now made a high crime. Even those societies at the abolition of which the *Burschenschaft* had especially aimed, were strictly prohibited, the Government being afraid that the latter might be reorganized under the outward forms of the old sectional leagues. But these were nevertheless continued, generally with the connivance of the academic authorities. Even the *Burschenschaft* soon reappeared, generally under the cloak of an ancient territorial name, as : *Allemannen*, *Germanen*, *Arminen*, *Cherusker*, etc. They now became the nurseries of republican ideas. Outwardly they mostly conformed to the ways of the sectional leagues. The former vigor of the "moral" principles soon relaxed ; the prohibition of duelling was kept on their statutes, but they found means of evading it, and their difference from the other leagues soon consisted in almost nothing but their political tendencies. But these "political" leagues in all the

different Universities stood in the closest connection. From time to time they held general assemblies, to which several (generally three) members of the separate chapters were delegated. But all these things had to be done with the utmost secrecy, and therefore the league shared the fate of all conspiracies—moral degradation. The secret leaders of the league were in the closest intimacy with all antagonists of the Government, and after the French revolution of 1830, even with the secret societies in France. A rash and unsuccessful attempt to revolutionize Germany was made in connection with the French republicans at Frankfurt, in the year 1833. This attempt gave another opportunity to the governments for falling on the league. Thousands of members were again incarcerated, and more than three hundred were condemned to death; none, however, suffered this penalty, all being amnestied in the year 1840. But the *Burschenschaft* as such rose no more. Their principles were now absorbed by the people, which eight years later obtained by arms from the German governments, that liberty which the *Burschenschaft* had planted as a seed.

Meanwhile the old sectional societies continued; but they learned valuable lessons from their old antagonists. In a third article we shall attempt to describe the inner life of these societies, as they exist at the present day.



ANOTHER VIEW OF OUR ENGLISH GRAMMARS.

DURING the present year, several articles have appeared in the MONTHLY, under the general heading "*Our Popular School-Books.*" All these articles, except the first, relate to English grammars, and they are set forth with great pretension to learning and justice; but to us they seem so far from being either true or just, that we feel constrained to offer a few remarks against them.

The reviewer's own style is a remarkable proof of his competence to sit in judgment over all the makers of grammars! He begins his chief article thus: "We do not profess in these papers to examine every work, or even a tithe of the works on the particular subject under consideration." Here the phrase "in these papers" is misplaced; and a comma after "work," without another comma after "works," destroys the sense. Besides, "papers" and "tithe" are not the most appropriate words—but we do not mean to be hypercritical. The sentence should at least have been, "We do not profess to examine in these papers every work, or even a tithe of the works, on the particular subject under consideration."

The reviewer's next sentence is, "Our aim is, as our title implies, to discuss the comparative merits of those text-books that are more generally used in schools." When an indefinite antecedent has been made definite by a specifying adjective, the following relative should be *who* or *which*, not *that*; besides, "more generally" should be "most generally," and "in schools" is a superfluous phrase. The sentence should rather have been, "Our aim is, as our title implies, to discuss the comparative merits of those text-books which are most generally used." In the reviewer's next sentence, which is too long for us to quote, the potential mood is used where the indicative should be used; and the conclusion of this sentence, in which he intimates that he is doing the public a great favor by showing them what books are worthy of patronage, is an assumption that might as well have been left to the silent inference of public opinion. Occasionally, he uses not only inexact words, but even such as are pedantic; as, for instance, "*basic*" instead of *fundamental*. After carefully examining the articles furnished by this reviewer, we find that about one-third of his own sentences are not strictly correct!

The reviewer seems to be something of an antiquarian, for he recommends as the best books those which have either died or are sadly consumptive. Granting that he is wholly unbiased, we are obliged to believe that his notions of grammar are of the fossil type,—cast in the inexorable mould of some antiquated and pedantic system which he studied at school. Since then, he has evidently slept a long Rip-Van-Winkle sleep on the subject; and it is quite natural that he should now feel dissatisfied with new systems, because he cannot fit himself to new things, nor transfer his affections from the old. If the science of grammar were limited to the narrow field to which he would confine it, the study would soon become even less satisfactory than it now is. Certainly, those whom the world regards as the greatest grammarians, have not placed grammar on so narrow a basis; and perhaps their convictions, matured by long study, are as sound and trustworthy as the crude opinions of this reviewer. In fact, grammar properly treats not merely of a little common syntax, but of all the laws or general principles on which the form of language depends.

The reviewer has not treated his subject in a very systematic manner; but the books, or authors, criticised by him, are made to come, and go, and reappear, again and again, like the dancers in a cotillion! In the midst of this general confusion, however, he has endeavored to make a classification of the various grammars, according to what he supposes to be their relative merits. In doing so, it seems to us that he has extolled some of the books far above their merits, and degraded others as far below the rank to which they are entitled; so that we feel obliged to reclassify the books of his list, and to give some reasons for the change.

Of the various systems of English grammar published in this country, the principal are Brown's, Greene's, Kerl's, and Fowler's. Of these books, Brown's and Kerl's are the most accurate, and have probably had most care bestowed on them. Brown's system is a careful elaboration from the old systems of grammar, before the new and superior philosophy of the great German grammarians had been infused into the science. Greene was the first in our country that introduced this philosophy from the Germans; in other words, he adapted to the English language the system of Analysis which Kühner had applied to the Greek. Brown's work, as a system of thought, has many faults; and these will ultimately strand it among the things that were. Brown lacked the humility which is the beginning of wisdom. He is too pedantic, too egotistic, too vain. Perhaps no other grammarian ever took so much pains to extol himself above the rest of his profession; and of course the teachers who believe Brown, must worship him nearly as much as he worships himself. The very title of his common-school grammar—"Institutes of English Grammar"—is pedantic. Why did he not at once call it—from Justinian—Brown's *Pandect*? and then hang every individual and nation that would not submit to it as *the* law? At the close of his "*Institutes*," he gives us a poem, written by *himself*; and who can estimate the immense benefit which he has thus conferred on mankind? Even in the most important scientific parts of his subject, Brown has many objectionable things. Our space, however, will allow us to point out only a few. He divides verbs into *active-transitive*, *active-intransitive*, *passive*, and *neuter*. But there are many verbs that are transitive, without being active; and the passive verb is but another form of the transitive. If I say, "This block resembles that," "The house has a portico," *resembles* and *has* are transitive, without implying action. In the sentence, "I see the reason," Brown would call *see* a transitive verb; but in the sentence, "I see why he went," Brown would not call *see* a transitive verb. He also denies that *like* is transitive, in the sentence, "Boys like to play." He parses *to*, of the infinitive, as a preposition; but perhaps few outsiders can see, betwixt *like* and *play*, the ordinary relation of *to*. And in the sentence, "To play is pleasant," we should like to know between what *to* shows the relation. Brown says that *lord*, in the sentence, "To be a lord in one's closet, would be romantic madness," is in the objective case: but as *lord*, in both the expressions, "He struck a lord" and "To strike a lord," is in the objective case; so *lord*, in both the expressions, "He is a lord" and "To be a lord," is in the nominative case. Brown's doctrine of the verb is vicious in many respects, especially with reference to infinitives and participles; his views of nouns, adverbs, and prepositions, are not altogether sound; his Punctuation and punctuation are so far obsolete that they would not be tolerated in any first-class printing-office; his general system of

grammar is sadly deficient in Analysis ; and his principles of criticism, if fully carried out, would rob our language of much liberty that it should possess. The reviewer has bestowed crown and sceptre on Brown, and set him above both Greene and Kerl ; but, in our opinion, both these authors have furnished better systems of science. Brown, in his large work, which he rather ostentatiously styles "*The Grammar of English Grammars*," has accumulated the largest amount of materials on syntax ; and in this respect alone does he take precedence of other grammarians. The reviewer particularly praises Brown's method, in opposition to certain views advanced in the *Massachusetts Teacher* ; and not only does he tauntingly summon Kerl to witness the rare excellence of Brown's exercises, but he even misquotes and misrepresents Kerl, as we have found on examining the books of these authors. To us, the views in the *Massachusetts Teacher* appear to be sound ; and we think the series of exercises given in Kerl's Common-School Grammar, from p. 241 to p. 275, superior to any other we have yet seen. Perhaps these exercises would be more convenient if scattered through the book ; but, as they are given, they resemble a city of architecture, and present the entire general syntax of the English language. Skilful teachers will of course use them with any part of the book requiring exercises.

The reviewer condemns every system of classification that differs from Brown's. But he should first have proved that Brown's method is absolutely the best. The various materials pertaining to the parts of speech have been arranged by Brown, and most of the other old grammarians, under the two heads of etymology and syntax. This division of the subject, however, is not the most natural one. Even Brown was unable to make the distinction fully ; for he has placed remarks of the same kind, and examples of the same kind, under both heads. Words evidently have most of this so-called etymology because they have syntax. The verb, for instance, has person and number because it refers to a subject. According to Brown, Bullions & Co., the pupil parses a word nearly to the end ; then he waits six months, or a year, or until he reaches the rules of syntax, before he completes the exercise ! To present etymology and syntax together, or to parse a word completely when it is parsed, can surely not be a greater impropriety.

Of Fowler, we have but little to say. He is rather a philologist than grammarian ; and he has written more like a historian than critic. His large treatise is not much more than a republication of Latham's work, with some original matter from Prof. Gibbs, and a general adaptation of all the materials to what the author supposed suitable for the schools and colleges of this country. Fowler's large work is interesting and instructive ; but it is deficient in exercises and critical nicety.

Next in rank to the grammarians already noticed, we should place

Bullions, Wells, Mulligan, Quackenbos, Pinneo, and Hart. Bullions and Hart have made their Grammars chiefly from a respectable little Scotch work, called *Lennie's Grammar*. The system of Bullions is superior to Hart's; and while both systems have been made with careful regard to practical adaptation in schools, both are deficient in originality, force, and critical nicety. Wells has written a more correct book than either of the preceding authors; but his work is so deficient in exercises, and other requisites for schools, that it is rather a pleasant manual for literary men to peruse than convenient school manual. Bullions has been ranked very high by the reviewer; and his books would undoubtedly be admirable, if they only had better thinking in them! The old editions were too full of errors to live, and the revised editions are very little better. It is strange that the reviewer could find so little to blame in Bullions, who, after being ranked next to the immortal Brown himself, surely deserves to be shown up in his true habiliments; but we have room for only a few specimens of his general style. "A *Noun*," says Bullions, "is the name of any person, place, or thing, *when used in connection with other words*; as, *John, London, book*. Hence, the names of persons, places, or things, are Nouns." How edifying the conclusion is, to say nothing of the rare excellence of the definition itself! "The *Present* infinitive expresses an act or state as incomplete, or indefinite, or as taking place at a time indicated by some other word, or at any time referred to, expressed or understood." It were a pity if so many raps did not hit the nail on the head at last; yet, after all, it might puzzle even a smart boy to tell which is which, or what is meant. "Rule XIII.—A Substantive that limits the signification of another, must be put in the possessive case." This Rule would be just as true of *apposition*; and the phrase "must be put in" is truly elegant. "Rule IV.—The infinitive is used as a predicate-nominative after any verb as a copula; as 'You are *to blame*.'" This, surely, is a new kind of predicate-nominative! The various uses of the dash are taught and illustrated in a sentence that is a jewel of style: "The *Dash* (—) is used where the sentence breaks off abruptly; also to denote a significant pause—an unexpected turn in the sentiment—or that the first clause is common to all the rest, as in this definition."

Mulligan is a much more respectable writer than Bullions, especially as he is not a mere compiler. He has written an elaborate work, not adapted to schools, and very much overpraised by the reviewer. There is too much talk in proportion to the amount of matter; and though there are many knotty subjects in grammar, and Mulligan's book is a large one, yet he who would get rid of his doubts by consulting Mulligan, will often look in vain. The book resembles Ovid's chaotic world—*rudis indigestaque moles*; and the language is frequently too technical and

pedantic, as when he says, "We may recognize this construction by the name of the accusative and infinitive contracted objective accessory." Just imagine a boy as stating his "recognitions" in this style to an examining committee, on examination-day! Surely they would feel themselves overwhelmed with learning and philology.

The two remaining works of our second class, Pinneo's and that of Quackenbos, we think the reviewer has very much overpraised. Pinneo's larger Grammar has always seemed to us a very wishy-washy concern. His smaller Grammar is better, but it is not the best small grammar published. It is true that Pinneo's smaller Grammar is more easily learned than many others; but all the advantage it has in this respect is more than counterbalanced by a want of truthfulness or exactness. Pinneo says, for instance, "A Proper Noun is a name peculiar to an individual;" "A Common Noun is a general name, or a name common to many individuals." These definitions are very little better than Smith's,— "A proper noun is a particular name," "A common noun is a general name." All these definitions would justify a pupil in parsing *John* as a common noun. Besides, *individual* is an ambiguous word; for most people apply it to persons only. Other definitions of Pinneo's are no better; as, "Person is the distinction of nouns as to the person speaking, spoken to, or spoken of;" "The Indicative Mode is used for declaring or indicating;" etc. It is not hard to make grammar easy, by thus sacrificing thought and truth to words; but surely that education which is no guide, which misleads, or which must afterward be unlearned, is not of the most commendable kind.

Quackenbos is highly praised by the reviewer, as a teacher that knows what teachers want; and yet we have never heard Quackenbos's Grammars praised by any intelligent teacher that used them. The reviewer particularly commends Quackenbos's method; and on turning to the larger Grammar, that we might also enjoy a view of this excellent method, we found that the book begins with the following arrangement of matter: *Words, Letters, Syllables, Letters, Words, Words, Syllables, Words*. We are utterly unable to see the systematic beauty of this arrangement. Some of the definitions are truly models. For instance: "The First Person denotes that which speaks." If the first person speaks, it is not *that which*; and if it is *that which*, it does not speak—unless it has indeed the gift of Balaam's chattel! We also object to *manufactured* false syntax, especially from good, classic English; as, "Many a flower is born to blush unseen, and waste *their* sweetness on the desert air." A grammarian should find his false syntax in the text of good writers. But Quackenbos had no time for this; and how he must have strained his wits when he *manufactured* such stuff as this!—"As I was looking at the heifer, *he* suddenly started off;" "Your garden looks much better since you *wed*

it." In Quackenbos's smaller Grammar, we find the worst form of the question-and-answer system. Suppose a child's memory is stored with such a series as the following—"A sentence," "To express a thought," "Of three words, each the sign of an idea," "*Weeds* tells what is spoken of," "Sentences," "Of words, which are the signs of ideas," what system, or mental development, is likely to spring from such a jumble of things?

The remaining Grammars noticed by the reviewer,—Clark's, Parker's, and Kirkham's,—are scarcely worth criticising; and we are content to leave them in the limbo to which the reviewer has consigned them.¹

A GOOD BEGINNING.

IF there ever was a "live topic" for our educational journals to take up and dispose of, it was undoubtedly Mr. Worman's exposure as the maker of a pernicious German grammar, and the controversy growing out of it between his publishers and the publishers of the *American Educational Monthly*. Except this journal, however, not one had, to our knowledge, lisped a word on the subject, or made any allusion to the disgraceful announcement of the Messrs. Barnes that they meant to continue publishing text-books by the same pretender, until the *Rhode Island Schoolmaster*, in its issue for October, spoke the manly and dignified protest which should have been heard on every side. It was a good beginning for a journal just revived, after suspension for many months, and we trust it will remain faithful to its purpose of criticising text-books impartially, without fear or favor. The Messrs. Barnes may never advertise on its covers again, but the *Schoolmaster* has only to persist, and in time it will convince the journals of the same class—which now dare not speak their minds freely lest they should lose the patronage which keeps them alive—that safety as well as honor lies in independent criticism, and that the publishers of school-books cannot make head against them if they are united in this policy. The present system by which text-books are introduced into schools and exchanged for others is shockingly corrupt, and needs a vigorous overhauling. If proofs are wanting to convict the publishers—and they frequently come to light—nothing less can be done than to examine the books for which favor is bought. Not to do this is to surrender entirely.—*The Nation* (Oct. 28, 1869).

¹ Since the foregoing pages were written, we have received the November number of the *MONTHLY*; and in it we find an additional article by the reviewer. A change has evidently come over the spirit of his dream, and he has, again gone over much of the ground which he traversed before. His last article is better than his two former articles; but he still gives too high a position to Brown and Bullions.

DECEMBER, 1869.

IGNORANCE, OR VENALITY—WHICH ?

SPECIAL ignorance is no crime : nor is it always a discredit. It is no disgrace to a lawyer to be unable to discriminate diseases, nor to a doctor to be unversed in the intricacies of the law. Either may be ignorant of the other's specialties, and yet not obnoxious to the charge of narrowness or pretension. Furthermore, each may be an authority in his own profession, without thereby acquiring a right to be considered an authority in the other's ; and if either goes out of his proper sphere, and presumes to pass judgment on matters that he knows nothing about, his just rank as a doctor or a lawyer, so far from palliating his offence, only makes it worse, because more likely to mislead. All this is commonplace, yet it is frequently forgotten. Clergymen recommend nostrums that they are incompetent to judge of ; editors and teachers praise books that they know nothing about ; and an over-lenient public seldom brings home the criminality to the offender. At most, the presumptuous clergyman or teacher is charged with an error of judgment, though he is guilty of pretension and fraud.

A man, we will suppose, is widely known as an able lawyer or literary man. Let us suppose further that this man's friend or his friend's friend, invents a machine—for precision, say an electric engine. To be a competent judge of such an invention, a man must be an expert in mechanics, and well versed in the science of electricity. Our lawyer or literary man is neither. He has no practical knowledge of machinery, and but a general knowledge of electricity. His friend desires his influence. He is not obliged to pronounce upon the merits of the machine. On the contrary, he is morally bound to admit that he is incompetent of judgment. But he does pronounce. With the air of an authority, he declares the machine to be a perfect success. The public, misled by his

general reputation, is deceived and swindled. What is the popular verdict? The unharmed tenderly say that the lawyer or literary man was mistaken. Those who have lost their money say, and justly, that he is a “fraud,” in that he has transcended his legitimate sphere, and betrayed a trust reposed in him.

It will not redeem his character, or help the case of the unsuccessful engine, to bring fifty other lawyers or literary men to declare that the engine is not a failure. The evidence of fact, shown by the uncontroverted testimony of a single expert, is worth them all,—no matter what may have been the motive of the expert in giving the testimony. The exponents of the machine must show that the testimony of the expert is contrary to fact, or presumptively stand convicted of pretentious ignorance, dishonest favoritism, or venality. Take a parallel case.

Prof. Fischer's reviews of “Worman's German Grammar” have proved the book to be a fabrication of the basest sort. They have proved, further, that in writing the book Mr. Worman showed himself to be grossly ignorant of the German Language; and, what is worse—a plagiarist.

In response to Prof. Fischer's exposure of their publication and protégé, Messrs. Barnes & Co. parade the names of some hundreds of “Endorsers,” who declare that the book is everything excellent, from “a sunny-faced blessing” down: a most unkind betrayal of friendship; for unless the charges against the book are refuted, such endorsements only convict the “endorsers” of having been criminally unwary, incompetent, or corrupt.

We will enumerate certain specific allegations, that must be shown to be false, to acquit Mr. Worman of the charge of ignorance and dishonesty, and to relieve his “endorsers” from the unenviable predicament wherein they have placed themselves. In our issues for May, July, and September, may be found the following statements, with specifications of the evidence of their truth:—

1. That, when Mr. Worman wrote his “Complete German Grammar,” he was ignorant of the proper *formation* of *National Nouns*.
2. That he was ignorant of the right *declension* of nouns.
3. That he was ignorant in regard to *Gender*.
4. That he did not know how to form *Adjectives*.
5. That he did not know how to use the *Article*.
6. That he was ignorant of the declension and use of *Pronouns*.

7. That he did not know how to *conjugate* common verbs.
 8. That he constantly confounded and misapplied the auxiliaries *haben* and *sein*.
 9. That he was ignorant of the right use of *Cases*.
 10. That he did not know how to use *Prepositions*.
 11. That he did not know how to use *adverbs*, especially the adverb of *negation*.
 12. That he was ignorant of the nature and force of *Conjunctions*.
 13. That he could not distinguish between the *Indicative* and *Subjunctive moods*, or even recognize a *subjunctive*.
 14. That he persistently misapplied *Tenses*.
 15. That he was ignorant of grammatical *Analysis*.
 16. That he was ignorant of the *meaning* of *Common words*.
 17. That he misstated many rules of *pronunciation* and *orthography*.
 18. That his rules were virtual copies of Otto's.
 19. That in changing Otto's language to disguise the theft, he constantly misunderstood and corrupted Otto.
 20. That he followed a perverse and absurd method.
 21. That his rules generally resulted in absolute nonsense.
 22. That it was impossible for the student to translate the exercises without committing the most ridiculous blunders.
 23. That in attempting to correct the blunders of the first edition, he introduced multitudes of new blunders, thus making bad worse.
 24. That he stole his exercises from Dr. CARL PLOETZ's books for German students of French ; and did not know enough of German to discover that the stolen exercises had been intentionally twisted into the French idiom, by Dr. PLOETZ, to facilitate their translation into French.
- Messrs. Barnes & Co. have issued several pretended, and pretentious, "replies" to Prof. Fischer's reviews ; but the proofs, by which he substantiates the foregoing charges, have not been controverted. So long as they stand unrefuted, the legitimate inferences to be drawn from the endorsements paraded by Messrs. Barnes & Co., are :
- (a) That multitudes of American teachers have unwarily pronounced a favorable opinion of the book from a cursory and insufficient examination ; or,
 - (b) That having no knowledge of German, they have pronounced judgment without being competent to judge ; or,

(c) That they have acted as false witnesses for friendship or favor.

The endorsers of "Worman's German Grammar" may take their choice of these inferences. They cannot escape the opprobrium of one or all of them, until the charges against the book are shown to be false—which we claim to be impossible.

GREEN MOUNTAIN SPIRIT.

VERMONT is one of the States doubtfully blessed with a State Board of Education empowered to establish an "authoritative list" of text-books to be used throughout the State. The natural consequence of such a Board was the misuse of its power—the selling out of the State to certain seemingly lucky parties, who thought that they had got thereby the monopoly of the school-books of the State. But the job fell through.

The books adopted were not the books most approved by the teachers. Indeed they were in many cases the books least approved by the teachers. So the teachers snubbed the State Board, disregarded the authorized list, and used such other books as best suited them. This high-handed defiance of lawful authority was naturally distressing to the order-loving parties whose books were on the list. They protested, threatened injunctions after the fashion of gold brokers and railroad men—and were laughed at for their pains. For why? The law provided no penalty for its infraction! The Legislature was appealed to. A bill drawn up by interested parties, and designed to make the State list compulsory, was offered and unanimously rejected. The customary plausible talk about the blessings of "Uniformity" could no longer disguise the job: so the beautiful "system" fell flat, not merely unappreciated but flouted and despised. The "Ring" had overreached itself, and rudely dispelled the delightful dream of a wise and incorruptible council of "leading educators" who would select the very best from the multitude of school-books published, and thus secure to the State the very best means and appliances for education in the market—as the customary phrase runs.

Other States, following the example of Vermont, have adopted the uniformity system, which is a polite way of saying that they have put their teachers under the thumbs of certain favored publishers. Will the teachers follow the example of their Green Mountain brethren and rebel?

EDUCATIONAL INTELLIGENCE.

THE School Superintendents of several of our leading cities have favored us with their Reports for the past year. We should be glad to make from them some comparative statement of the capacity, efficiency, and merit of the school systems and appliances of these cities; but it is impossible. There is so little uniformity in the style of the reports, such a lack of correspondence in the nature of the statistics given, that no general comparison of them can be made. All that we can do is to select from each the most important facts, and give them as uniformly as the nature of the case will admit.

As we have said before, the most praiseworthy measure that could be adopted by the National Association of Superintendents, would be some uniform plan of reporting the capacity, condition, and wants of the schools; not an over-elaborate table, but a simple system that would make possible a direct comparison and general summary of the leading school statistics of the country. As the reports are now made, the statistics given are entirely unavailable for any broad view of our public schools.

BOSTON.—The last report in hand, that for the half year ending February 28th, 1869, gives the following summary of attendance for the period under review. The average number of pupils belonging to the schools was 33,994, distributed as follows: High Schools, 1,143; Grammar Schools, 18,029; Primary Schools, 14,730. The average attendance was 31,671—High Schools, 1,104; Grammar Schools, 17,031; Primary Schools, 13,445. The whole number enrolled is not stated. The increase during the year was 897, chiefly in the grammar-schools. The number of regular teachers employed was 786, of whom 690 were women. Twenty-nine teachers are classed as special teachers, fifteen of whom taught sewing in the grammar-schools. The average attendance to a regular teacher was: in primary schools, 43; in the grammar-schools, 45; in the high-schools, 30. No financial statistics are given in the report.

By a city law, boys are forbidden to sell papers or black boots in the streets without a license, and they are not allowed a license unless they attend school at least two hours a day during the school year. To enable these boys to comply with this regulation, two schools are provided for them. The average number belonging to these schools has been 91, and the average attendance 79. Though there is some laxity in executing the rules provided for licensed minors, the plan of requiring them to attend these schools is pronounced by the Superintendent "a success," and "the schools have already done much to improve the character of the classes who attend them." The establishment of schools in which boys and girls might be taught various trades in connection with the ordinary branches of elementary education, is cautiously mentioned by Mr. Philbrick, who is not yet prepared to express an opinion as to how far such schools would be practicable. The tenor of his remarks, however, leads us to surmise that by next year, or the year next following, he will be prepared to come out as one of the original advocates of this practically practical species of elementary education. Mr. Philbrick is certainly wise in treating with caution an innovation that conflicts so strongly with the spirit of the

existing school-system. To teach children not merely how to get a living by actual work, but to aspire to do it, is so contrary to the present fashion, that nothing short of a revolution in scholastic opinion can reconcile our educators to doing anything of the kind.

NEW HAVEN.—The number of children between 4 and 16 years of age in New Haven, Jan., 1869, was nearly 10,000. For the school accommodation and instruction of these the city provided about 6,000 school sittings, and employed 134 regular teachers, 122 of whom were women. The number of pupils registered during the year was 6,767; the average number on register being 5,664. The average daily attendance was 5,337. The average daily absence was 293. The average number of pupils to a teacher in all the schools was 41. The school expenditure during the year was \$95,954; of which sum, \$72,954 were paid for teachers' wages. The cost of each scholar was, for tuition, \$12.88; for incidental expenses, \$4.06. During the past year, drawing has been added to the course of studies pursued in all the schools. Prof. Bail's system of instruction was followed under the author's supervision, and the most gratifying success is reported.

BURLINGTON, VT.—A careful school census, taken Jan., 1869, found in Burlington 1,308 families having children. In these families there were 999 children between 5 and 10 years of age; 889 between 10 and 15; and 635 between 15 and 20; making in all 2,768 children between the ages of 5 and 20, including the high-school. The town provided school sittings for 946, just about enough to accommodate the school-going population under ten. The number of different pupils connected with the schools during some part of the year was 1,425. The average number was 776. The average daily attendance was 606 the spring term, and 690 the fall term. The cost of the schools for the year (1868-9) was \$12,816, of which amount \$8,523 were paid for tuition. The cost of tuition for each one of the average number belonging to the schools was \$10.98 a pupil. The whole cost for the average number was \$16.51.

NEW YORK.—At a recent meeting of the Board of Education, an elaborate report on the condition of the schools of the city was rendered by a Committee on Retrenchment. From that report, as printed in the *Times*, we select the following statistics:

There are in the city 117 public schools, classified as follows: 57 grammar schools, 41 primary schools, 6 colored schools, 13 corporate schools. These are again subdivided into 46 male departments, 44 female departments, 56 primary departments, 6 colored schools, 1 high school, 2 Normal schools, 15 male evening schools, 11 female evening schools, 3 colored evening schools. The 13 corporate schools are not owned by the City, but participate in the public school fund. The whole number of schools and departments is 239. These schools and departments, as at present organized, are conducted by the following staff of teachers: 182 principals male and female, 164 vice-principals male and female, 86 male assistants, 318 female assistants in the male schools, 365 female assistants in the female schools, 1,050 female assistants in the primary schools, 6 principals of colored schools, 32 assistants of colored schools; 5 music teachers of colored schools; 5 drawing teachers of colored

schools; 31 teachers of German; 23 teachers of French; 83 teachers of music; 51 teachers of drawing; 3 teachers of penmanship; 7 teachers of science; total number of teachers, 2,411. The annual cost of this staff of teachers is as follows: principals and teachers in the male departments, \$559,750; principals and teachers in the female departments, \$351,950; principals and teachers in the primary departments, \$719,450; teachers of French, German, music, drawing, penmanship, and science, \$55,000; colored school principals, \$9,300; colored school assistants, \$118,940; colored school music and drawing teachers (and janitors), \$3,442. These items are independent of the cost of buildings, building sites, repairs, rent, fuel, gas, supplies through the Depository and other incidental expenses. The amount set apart this year for the corporate schools was \$69,751.77. There are, in addition, the following officers and employees of the department: Superintendent of Schools, five Assistant Superintendents and their Clerk, \$19,900; Superintendent of Buildings, Engineer, Inspector of Fuel, Messenger, Janitor, and Hostler, \$11,420; Clerk to the Board of Education and seven assistants, \$20,000; for labor in Depository in receiving goods, delivering the same to the schools, labelling and preparing the same for delivery, \$7,625; Clerks to twenty-two Boards of Trustees, \$4,894.92. The Board of Education consists of twelve Commissioners, who have the general supervision of the schools, the appropriation of the moneys set apart for their maintenance, the purchase of sites and erection of new schools, the furnishing of supplies of books, stationery, fuel, and lights. There are also 110 Trustees elected by the people, five for each ward, one being chosen each year for a term of five years. There are twenty-one Inspectors of Schools, who are nominated by the Mayor of the City for confirmation by the Board of Education. While the general supervision and management of the schools is confided to the Board of Education, the details are in the main left to the Trustees and Inspectors.

The Committee, in course of their inquiries, found that for alterations and repairs to school buildings, in addition to the appropriations already made, some \$58,000 will be required. The Committee also caused to be made a thorough examination into the seating capacity of the school buildings in the City of New York, and prepared a correct tabulated statement showing the whole number of seats in class and assembly rooms. The average attendance of the pupils for the year ending Dec. 31, 1868, was 86,154, exclusive of those attending the corporate schools, while the number of seats in the class and assembly rooms together is 125,987, showing an excess of seats over the average attendance of 39,833. This statement, they claim, clearly shows that no additional school buildings will be required during the year 1870.

The following shows the cost of educating each pupil of public schools of the several wards of the City in the year 1868, exclusive of the cost of sites and buildings: First Ward, total cost of each pupil, \$28.77; Second Ward, \$21.05; Third Ward, \$19.78; Fourth Ward, \$22.41; Fifth Ward, \$26.52; Sixth Ward, \$26.74; Seventh Ward, \$26.15; Eighth Ward, \$26.67; Ninth Ward, \$21.99; Tenth Ward, \$22.90; Eleventh Ward, \$23.70; Twelfth Ward, \$26.54; Thirteenth Ward, \$21.15; Fourteenth Ward, \$32.68; Fifteenth Ward, \$24.57; Sixteenth Ward, \$23.98; Seventeenth Ward, \$22.51; Eighteenth Ward, \$19.60; Nineteenth Ward, \$27.09; Twentieth Ward, \$20.28; Twenty-first Ward, \$22.41; Twenty-

second Ward, \$21.07. A small portion of the above differences in the cost of educating the children arises from the fact that some wards contain more grammar-schools than other wards, grammar-schools being more costly than primaries.

The total appropriation reported necessary for the year 1870, is \$2,295,945. The sum appropriated for 1869, was \$3,150,000.

BROOKLYN.—There were enrolled in the public schools the year ending Jan. 31st, 1869, 77,917 pupils, including 15,310 readmissions. The average number on register was 35,334; the average attendance was 30,582, thirty-nine per cent. of the number registered, and 86 per cent. of the average register. Of the 37,193 pupils on register at the close of the year, 11,569 were in the primary grades, and 25,623 in the grammar grades. The number of classes was 622—primary 361, grammar 261.

The number of regular teachers was 668, of whom but 29 were men. There were, besides, five music teachers. The average number of pupils to a class was, primary grades 71, grammar grades 44. "There is not a school-house in the city," says the report, "that has not its full complement of pupils; and there are very few that are not over-crowded. This is emphatically true of the primary departments." The Superintendent modestly disclaims any "discussion of new theories of education" or of "the many peculiar methods which are abroad;" yet that does not prevent his indulging in a fearfully highfalutin essay on civil government, and the neglect of teaching political science. The "conclusion"—which occupies some five pages—is another fearful essay at powerful writing, evidently modelled on the style of the worthy Superintendent of New York City. Mr. Bulkley fairly rivals Mr. Randall in the use of long words, but in length of sentences he is nowhere. His longest flight is only six feet, carpenter's measure. Mr. Randall goes twelve feet, easy. Apart from the few statistics that we have quoted, the report is interesting chiefly as a new illustration of Shuffle and Deal. Witness the pages on School Libraries. "While the *Public Library* is an institution of antiquity, and has ever been regarded with interest, 'THE DISTRICT SCHOOL LIBRARY' is of modern date. . . . Of its power as an educational, there cannot be a doubt. But that it may be productive of evil as well as of good, is also true. . . . Among the books of the libraries, may be found a great variety, adapted both to the wants of the young, and the more mature mind; full of interest and instruction to all classes of readers. Here we find the most interesting and approved volumes in, etc., etc., etc.—all of great value in the class-room. . . . When we look over these volumes and consider the various interests they represent, the character of the writers, and the great number of readers, we cannot but feel that here is a power, and that influences will emanate from these sources which may be potential for good to multitudes,"—and so on, to the end of the chapter, the old ideas are rehashed and served up in new connections with the usual skill. We have caught but a line here and there. The rest may be found in any report that the reader may have at hand.

JERSEY CITY.—The number of children in Jersey City between five and eighteen years of age, is about 12,000. There were registered in the public schools, day and evening, the past year, 6,954. With an average register of 3,835, the average attendance was only 2,923, thirty-eight

per cent. of the number admitted. The causes of this very low average might be largely attributed to the condition of the school buildings, and the lack of school accommodation. Less than 4,000 sittings were provided, and these were not in all cases the most inviting. Of school No. 1, for example, we read: "The grammar departments are tolerably well suited for use, but the primary department is badly lighted, badly heated, badly ventilated, over-crowded, and unsafe." Since this condemnation was written, however, the building has shown such indications of weakness that the Board of Education has voted to abandon it. "All the defects of lighting, heating, and ventilation, that exist in No. 1, are found also in No. 2. In both schools some rooms are so dark, that on cloudy days it is impossible for the teacher, standing on one side of the room, to distinguish the features of children on the opposite side." School No. 3, recently repaired, and School No. 4, which is quite new, are both in good condition, the latter especially; but these are not sufficient to meet the wants of the children who should be at school. Since the report was made a good deal has been done to improve the schools in every respect, so that there is reason to look for a more satisfactory exhibit in the next report.

NEWARK.—On the completion of his tenth year of service, as Superintendent of the schools of Newark, Mr. Sears compares the school statistics of the city for the years 1859 and 1868. The population of Newark, in 1859, was about 70,000. It is now estimated at 100,000. The number of children between 5 and 18 years of age in 1859 was 17,047; in 1868, it was 23,421; increase $37\frac{1}{2}$ per cent. The number of children enrolled in the day-schools in 1859, was 8,466; in 1868, the number was 12,131; increase 43 per cent. The average number enrolled in 1859 was 4,990; in 1868, it was 7,420; increase $48\frac{1}{2}$ per cent. The number of teachers employed in 1859 was 97; in 1868, the number was 144; increase 48 per cent. In 1859, the teachers' wages averaged \$382; in 1868, the average was \$560. As the city increased in population only about 43 per cent. during the period under review, the schools appear to have more than kept pace with the city's progress. According to the schedule of teachers' salaries, adopted Dec., 1868, the principal of the high-school receives \$1,900 the first year, with an increase of \$100 a year for the next two years' service. The male assistants receive \$800, \$1,000, and \$1,400 respectively, the first year, with an increase of \$100 a year for the next two years. The female assistants are paid \$500, \$600, \$700, and \$800, respectively, with \$50 a year increase. The grammar-school principals receive from \$1,500 to \$1,700. The vice-principals from \$600 to \$1,100; the assistants from \$500 to \$800. The primary principals receive from \$550 to \$650; the assistants from \$300 to \$550. The total cost of the schools for 1868 was \$104,381. The average attendance was 54 per cent. of the enrolment.

OSWEGO.—According to the census of Sept., 1868, there were in Oswego 8,509 children and youth between five and twenty-one years of age. The number of different pupils registered in the public schools the past year was 4,823. The average daily attendance was 3,127. In Roman Catholic and other private schools there were enrolled about 800 pupils more, making the regular school-going population somewhat less

than 4,000. The number of permanent teachers employed in the public schools was 71, with three teachers *extra* for the winter evening schools. The average attendance to a teacher was 44. The salaries paid to teachers in Oswego are smaller than the salaries usually paid in towns of corresponding importance. The most paid to a woman teacher is \$800, and the least \$350: the average being \$477. The highest sum paid to a man is \$1,800. The report for the year ending Feb. 29, 1869, contains a "carefully revised and amplified course of instruction," which deserves a more extended notice than is possible in this connection. We design to take it up at another time.

CLEVELAND.—The legal school population, which includes all between 5 and 21 years of age, is about 25,000. The number of pupils enrolled in the public schools, the year ending August 31, 1868, was 10,154. The average number belonging to the schools was 7,060. The average daily attendance was 6,623. For the instruction of these children the city employed 157 teachers, 139 of whom were women. From a summary showing the number of children in the city, and the number enrolled in school at the several ages from five to twenty, it appears that more than four-fifths of all at six years of age go into the public schools; that from seven to eleven, inclusive, little more than half are registered; and that thereafter the proportional number diminishes rapidly, until at sixteen less than one in six remains. From thirteen to sixteen, inclusive, little more than one in four attends school. A large proportion of the older pupils attend during the winter months only. The general character of the attendance may be judged from the following figures, taken from another table. Of the 10,154 children enrolled, but 2,662 were in school the entire year; 1,117 were in school less than two months; 3,244 less than four months; 4,140 less than six months; 5,366 less than eight months; and 7,492 less than ten months. Of the whole number registered, 2,216 were absent more than one half-day a week; 520 were absent more than one day a week.

CINCINNATI.—The number of youth between 5 and 21 years of age, as returned by the takers of the census for 1867, was 109,783. Of these, there were enrolled in the public schools 26,352. While the increase in school population, for the year, was 9,000, the increase in school-enrollment was only 1,400: from which it would appear that the schools are falling behind in growth. The average number enrolled in the public schools was 19,536, or 1,179 more than belonged the year before. The average daily attendance was 18,476, against 17,323 for the year before. The per cent. of average daily attendance on the whole number enrolled was 70.1, a falling off of 1.4 per cent. The per cent. of attendance on the average number belonging was 94.5, a gain of one-tenth of one per cent. The average number of teachers employed was 418, with an average annual salary of \$745. The average number of pupils to a teacher was 46.7; the average daily attendance 44.2. The average cost per pupil, calculated on the number enrolled was \$11.82; on the average number belonging, \$16; on the average daily attendance, \$16.68. The total expenditure for all the schools was \$505,059, of which \$311,436 went for teachers' salaries.

CHARLESTON, S. C.—The report of the commissioners of the free schools, for the year 1868, shows that there were registered in the public schools, during the year, 4,425 children, of whom 1,653 were colored. The average number belonging to the schools was 2,407; the average attendance, 1,956; the number of teachers employed was 60, whose salaries amounted to \$28,500. The entire cost of the schools was \$38,887. The average cost per pupil was \$8.79 on the basis of registration. On the average number belonging, the cost was \$16.15 a pupil; on average attendance, it was \$19.88. The finances of the board were seriously embarrassed by the failure of the State Government to make the customary appropriation. From this cause the Normal school was being suspended; but the timely contribution of \$1,500 by the trustees of the Peabody Fund, enabled the Board to continue the school, though on a smaller scale than was originally designed. Notwithstanding this financial embarrassment, and the destruction of one of their finest school buildings, the Board are able to report the schools in a more flourishing condition than at any previous period.

SAVANNAH.—The number of children between six and eighteen years of age, according to the estimate of the city Superintendent, is 6,600, of whom 3,000 are colored. The number of white children who attended the public schools during some part of the year 1868-69, was 1,039; the number in Catholic schools was 700; in "Free" schools 70; in private schools 600. In the colored schools the enrolment was 1,000. The average attendance in the public schools was 682. The number of teachers employed was 20. The school expenditures amounted to \$21,317, of which \$17,785 was for teachers' salaries. The Superintendent reports a prosperous year with the schools. The number of scholars in attendance has been greater than ever before, and the instruction more efficient. The school system comprises four primary, three intermediate, three grammar, and two high schools.

FRANCE.—The resignation of M. Duruy is to be deplored for two reasons; first, from the apprehension that it may indicate a change of policy in the Department of Public Instruction; and secondly, because of the immense services which this conscientious Minister has rendered to the cause of public education in France. The *Opinion Nationale* thus sums up the series of measures which M. Duruy has succeeded in carrying out within the short period of six years, and which render his name dear in every village and hamlet throughout the country: "He developed popular instruction, drew half a million of adults every winter to the schools, elevated the condition of the teachers from the systematic abasement in which it had been kept for more than thirty years; gave a legal constitution to female schools, founded special secondary or professional instruction, rejuvenated and revived the University, and renewed the system of superior instruction, all in the sense and interests of liberty. No Minister of Public Instruction," adds the journal in question, "will have merited as large a place in the gratitude of the country. And what deserves especially to be noted, and which constitutes our hope, just as we see him withdrawn from public affairs, is that all the things which he has founded can, if necessary, sustain themselves unaided, for they are established on a principle of liberty, and on the participation of municipalities and citizens in the direction of popular instruction."

CURRENT PUBLICATIONS.

IT is seldom that a first-rate foreign book is republished in this country without detriment to its appearance. This is especially true when the excellence of the book depends to any great extent on beauty of engraved illustration. A notable exception appears in the Harpers' edition of Hartwig's "Polar World."¹ From the multitude of fine illustrations of arctic life and scenery at the command of the American editor, one hundred and sixty-three of the most appropriate have been selected to accompany Dr. Hartwig's text. The result is a great improvement on the original edition. The author's aim to convey solid instruction under an entertaining form has thus been made doubly sure by the help of the artist and the engraver. The new illustrations have been chiefly drawn from *Harpers' Magazine*, and the book of arctic travel by Atkinson, Ross Brown, Lord Dufferin, Hall, and Whimper.

THE fourth and fifth volumes of the Illustrated Library of Wonders, though lighter in character and less instructive than the first three, are likely to prove quite as popular. Vol. III.² treats of the Intelligence of Animals. The author's design is to show that our "poor relations" have more sense than is commonly attributed to them; and he does it by narrating instances of action that corresponds to reasoning in man. Vol. IV.³ comprises a number of hunting stories compiled from the works of ancient and modern travellers. This book will be especially popular with boys. The wood-cuts are its least commendable features.

A good book of its kind is "Day's American Speller."⁴ It contains a large number of words, classified and arranged for easy learning, and undisguised by the phonetic devices so successfully used in many spelling-books to disfigure our common English words. The author gives the words in their usual form, believing that a spelling-lesson should familiarize the learner with words, as he will have to deal with them in after-life. His theory is a sound one, and his book is not only better looking, but, we believe, more useful in consequence.

WE know of at least one teacher of Geology, whose standing advice to his pupils is to read everything of Ansted's. The advice is worthy of being followed to the letter; for of the few masters of the rare art of writing good books of elementary science, D. T. Ansted is one, and one of the best. We never take up a book bearing his name, without regretting that there is no one to treat the elements of Geology in the same style from the American stand-point. His "Earth's History"⁵ is an excellent

¹ The Polar World; a Popular Description of Man and Nature in the Arctic and Antarctic Regions of the Globe. By Dr. G. Hartwig. With additional chapters, and 160 illustrations by the American Editor. 8vo, cloth.

² The Intelligence of Animals. From the French of Ernest Menault. 12mo, \$1.50.

³ Adventures on the Great Hunting Grounds of the World. By Victor Meunier. New York: C. Scribner & Co. 12mo, \$1.50.

⁴ The American Speller. By Henry N. Day. New York: Charles Scribner & Co.

⁵ The Earth's History; or First Lessons in Geology. By D. T. Ansted, M. A., F.R.S. Philadelphia: J. B. Lippincott & Co.

little work. In spite of its local British character, it is one of the best books we know for giving the beginner a general idea of geological science. The tenth chapter is especially fresh and interesting. In treating of the geological history of man, it is far superior to any American text-book of the kind.

A SERIOUS objection to History as it is popularly written, more especially the history of ancient nations—that it gives the reader more than he cares to know of the achievements of the few, and little or nothing of the life and character of the many,—does not hold against Mommsen's "Rome."¹ This masterpiece of historical writing gives an intimate acquaintance with the Roman people, while it narrates, in a most entertaining and instructive style, the rise and development of the Roman nation. Vol. I. comprises two Books,—the first covering the period anterior to the abolition of the monarchy; the second that from the abolition of the monarchy in Rome to the Union of Italy. The chapters on the Original Constitution of Rome, Law and Justice, Religion, Agriculture, Trade and Commerce, Art and Science, are peculiarly rich in information not to be found in ordinary histories.

MISS MARTINEAU'S "Biographical Sketches"² comprise nearly half a hundred memoirs of distinguished personages, contributed by her to the London *Daily News*, since 1852. Nearly all the sketches appeared as obituary notices. As such, they convey the impression which the completed life left in each case upon the writer's mind, and, as she believes, on the mind of the society of its time. Everywhere throughout the volume appear evidences that the subjects of the memoirs were personally known to the author. She speaks from direct knowledge; and however strong her likings and dislikings are, her opinion carries weight as that of a keen and competent observer. The sketches follow an arbitrary not a chronological order, the personages being classified for convenience of reference, under the general heads—Literary, Scientific, Professional, Social, Politicians, Royal.

The Journal for Speculative Philosophy, for October, contains: I. New Exposition of the Science of Knowledge, by Fichte. II. Kant's System of Transcendentalism. III. Outlines of Hegel's Logic. IV. Bénard's Analysis of Hegel's *Æsthetics*. V. The True First Principle. This magazine has no rival in the English language. Its aim is to encourage the study and development of speculative philosophy, and to bring about the application of its results to art, science, and religion, and to obtain a philosophical basis for law, medicine, theology, politics, education, art, and literature.

The *Journal* is published at St. Louis, Mo., and is edited by Wm. P. Harris, the able superintendent of the schools of that city. Two dollars a volume. Single numbers 50 cents.

¹ History of Rome. By Dr. Theodore Mommsen. Translated by the Rev. W. P. Dickson, D. D. New York: Charles Scribner & Co. 1 vol., crown 8vo, \$2.50 a volume.

² Biographical Sketches. By Harriet Martineau. New York: Leypoldt & Holt.



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